

PAPERS AND ADDRESSES

BY

LORD BRASSEY

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LORD BRASSEY, K.C.B., D.C.L.

NAVAL AND MARITIME

FROM 1871 TO 1893

ARRANGED AND EDITED BY

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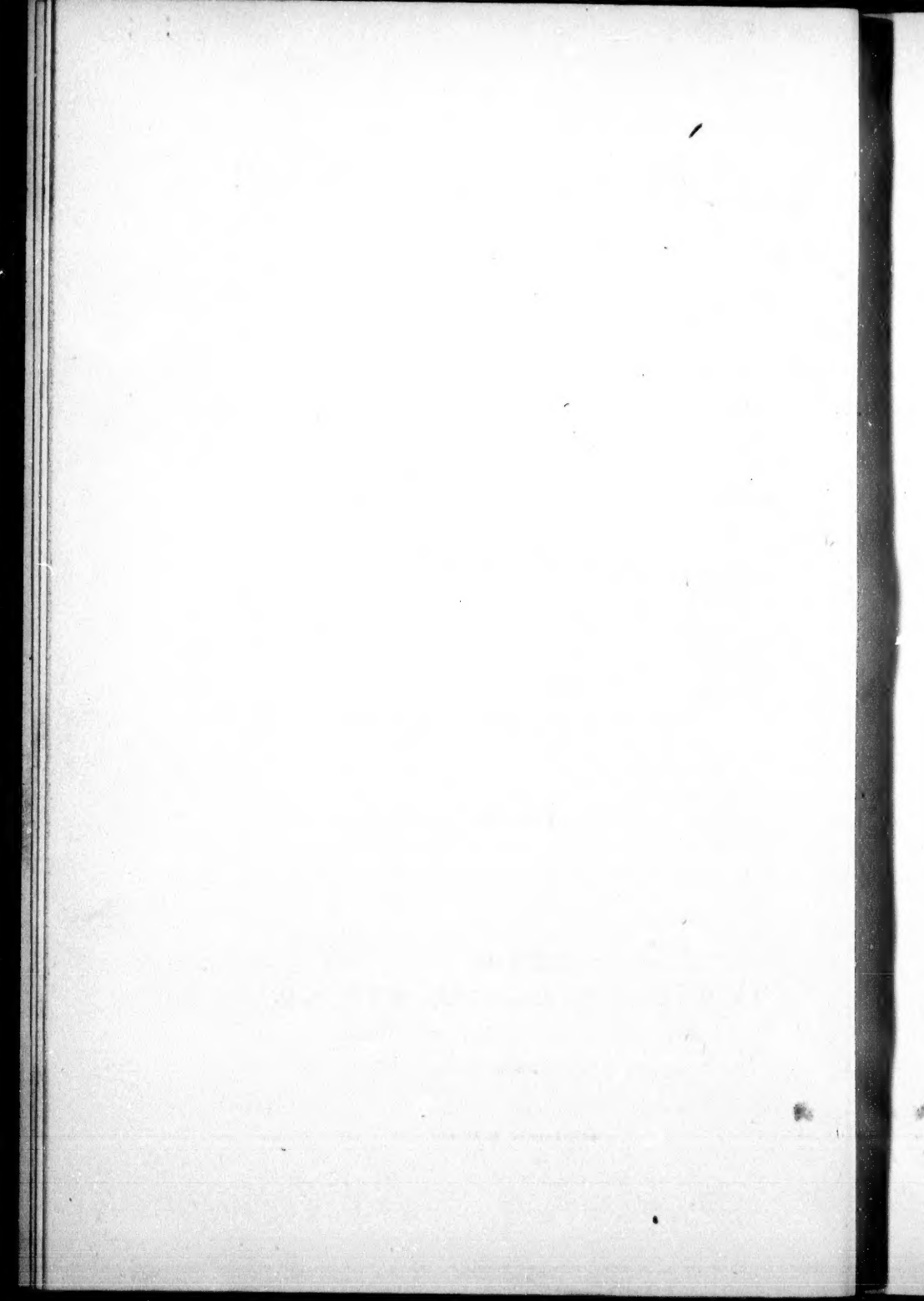
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CONTENTS

OF

THE SECOND VOLUME

PART III.

NAVAL RESERVES AND MERCHANT SEAMEN. NAVAL ARTILLERY VOLUNTEERS, AND A COLONIAL NAVAL VOLUNTEER FORCE.

	PAGE
I. OUR NAVAL RESERVES AND COAST VOLUNTEERS. PAMPHLET, 1871	1
II. OUR RESERVES OF SEAMEN. PAMPHLET, 1872.	52
III. NAVAL RESERVES. PAPER AT ROYAL UNITED SERVICE INSTITUTION, 1873.	89
IV. OUR NAVAL RESERVE. SPEECH, HOUSE OF COMMONS, 1874	106
V. HOW BEST TO IMPROVE AND KEEP UP THE SEAMEN OF THE COUNTRY. PAPER AT ROYAL UNITED SERVICE INSTITUTION, 1876	114
VI. GREENWICH HOSPITAL FUNDS AND PENSIONS. SPEECH, HOUSE OF COMMONS, 1881	139
VII. THE NAVAL RESERVES. SPEECH, HOUSE OF COMMONS, 1883	145
VIII. THE ROYAL NAVAL RESERVE AND ARTILLERY VOLUNTEERS. SPEECH, HOUSE OF LORDS, 1890.	150

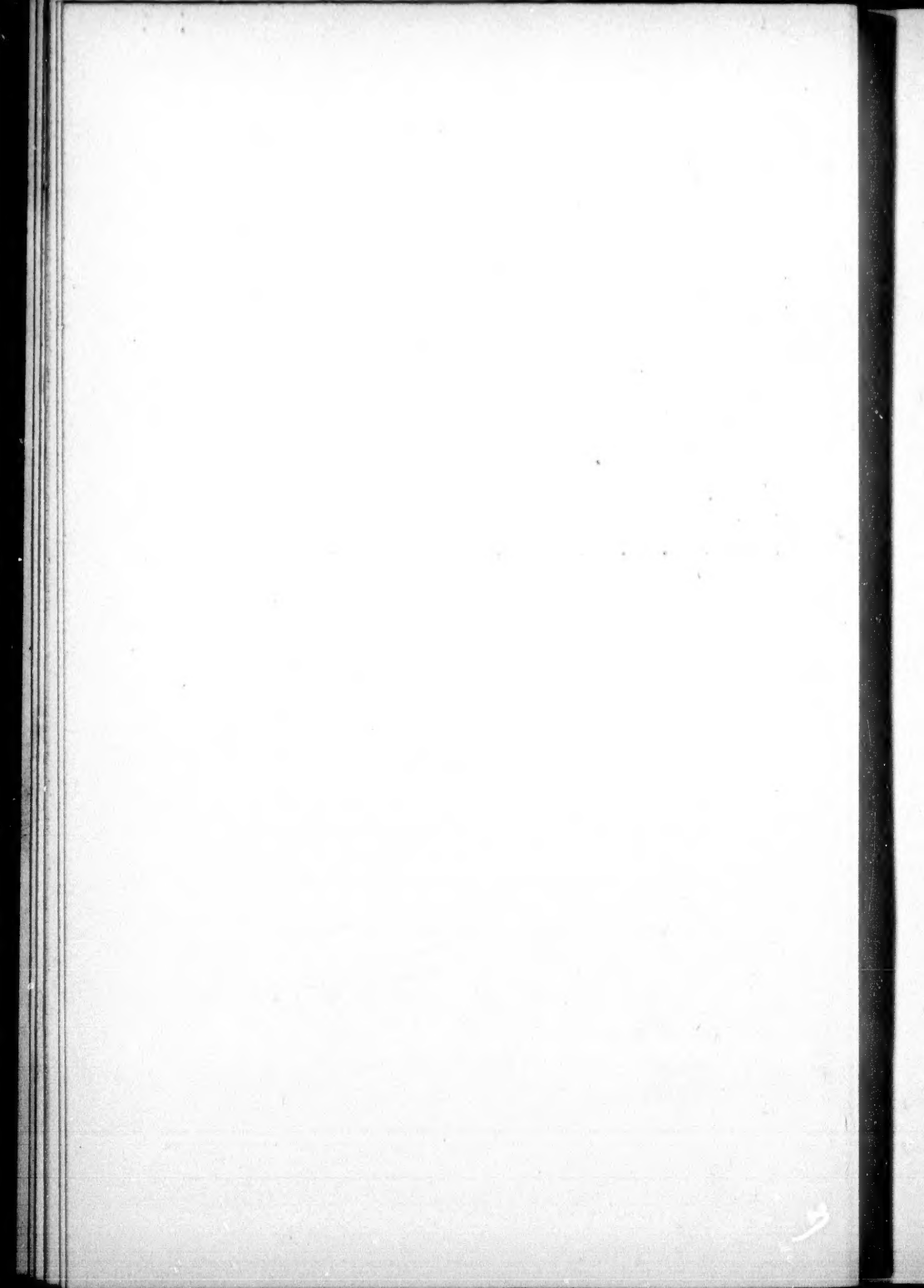
	PAGE
IX. THE ROYAL NAVAL ARTILLERY VOLUNTEERS. SPEECH BY MR. GOSCHEN, M.P., 1873 . . .	153
X. THE ORGANISATION OF THE ROYAL NAVAL ARTIL- LERY VOLUNTEERS. PAMPHLET, 1874 . . .	158
XI. THE NAVAL VOLUNTEERS. SPEECH AT LIVERPOOL, 1888	196
XII. THE ROYAL NAVAL ARTILLERY VOLUNTEERS, LETTER TO 'TIMES,' 1891	201
XIII. ON A COLONIAL NAVAL VOLUNTEER FORCE. PAPER AT ROYAL UNITED SERVICE INSTITUTION, 1878	207

PART IV.

AUXILIARY CRUISERS. COLONIAL DE- FENCE AND COALING STATIONS. NAVAL TRAINING AND EDUCATION. NAVAL MANŒUVRES.

I. AUXILIARY CRUISERS. 1. THE MERCANTILE MA- RINE CONSIDERED AS AN AUXILIARY TO THE ROYAL NAVY. PAPER AT ROYAL UNITED SER- VICE INSTITUTION, 1876. 2. A NAVAL RESERVE OF SHIPS. LETTER TO 'TIMES,' 1879. 3. MER- CHANT CRUISERS. PAPER AT INSTITUTION OF NAVAL ARCHITECTS, 1893	225
II. COLONIAL DEFENCE AND COALING STATIONS. 1. THE FUTURE OF CYPRUS. LETTER TO 'TIMES,' 1878. 2. CONDITION OF CYPRUS. SPEECH, HOUSE OF COMMONS, 1879. 3. DEFENCES OF THE EM- PIRE. ADDRESS, LONDON CHAMBER OF COM- MERCE, 1888. 4. GIBALTAR. LETTER TO 'TIMES,' 1890. 5. CASTRIES BAY, ST. LUCIA. LETTER TO 'TIMES,' 1892. 6. OUR COALING STATIONS IN THE WEST INDIES. LETTER TO 'TIMES,' 1892 . . .	246

	PAGE
III. NAVAL TRAINING AND EDUCATION. 1. TRAINING OF NAVAL OFFICERS. SPEECH, HOUSE OF COMMONS, 1871. 2. NAVIGATION AND PILOTAGE OF HER MAJESTY'S SHIPS. PAPER AT ROYAL UNITED SERVICE INSTITUTION, 1891.	285
IV. NAVAL MANOEUVRES. 1. ON THE BEREHAVEN OPERATIONS, LETTERS TO 'TIMES,' 1885. 2. THE RECENT NAVAL MANOEUVRES. LETTER TO 'TIMES,' 1888. 3. THE NAVAL MANOEUVRES OF 1892. LETTER TO 'TIMES,' 1892. 4. NAVAL MANOEUVRES OF 1892. LETTER TO 'TIMES,' 1892.	299
V. STRENGTH OF THE BRITISH NAVY. ADDRESS TO CALCUTTA CHAMBER OF COMMERCE, 1893.	331
INDEX	341



ADDRESSES AND SPEECHES

NAVAL AND MARITIME

PART III

NAVAL RESERVES AND MERCHANT SEAMEN. NAVAL ARTILLERY VOLUNTEERS, AND A COLONIAL NAVAL VOLUNTEER FORCE

I

OUR NAVAL RESERVES AND COAST VOLUNTEERS

PAMPHLET PUBLISHED IN 1871

INTRODUCTION

OF all problems in naval administration, the formation of reserves of seamen is the most important, and perhaps the most difficult.

It is unnecessary to enlarge on the supreme importance of the question to an insular people. Any of the great European Powers can, by a lavish expenditure, provide the matériel of a fleet. The personnel requires long and careful organisation.

The suggestions of an individual civilian, even though founded upon personal investigations, and matured by

A Royal
Commission
advocated

II.

B

2 OUR NAVAL RESERVES AND COAST VOLUNTEERS

labour and long reflection, cannot obtain—they do not deserve to possess—that degree of confidence which professional experience can command. The local circumstances of our numerous ports, the variety of their commerce, the prejudices, the habits, the qualifications of the seamen on different parts of the coast, must be taken into view in determining the best means of manning the Navy. An inquiry of such vital interest, and so comprehensive in its scope, demands the varied experience and knowledge of the statesman, the lawyer, the shipowner, the merchant sailor, and, above all, of the naval officer. In a Royal Commission judiciously constituted, this wide range of knowledge and experience may be fully represented. The Admiralty, however ably filled, cannot undertake so weighty a task in addition to the daily administration of a great service employed in every quarter of the globe. At the present time, exceptional anxiety is felt in many quarters as to the future of the mercantile marine. Inquiry into the manning of the Navy and the supply of seamen for the merchant service was held in 1852, and again in 1860. Another decennial period having expired, the present seems a fitting moment for inviting public attention to this question.

Support
afforded by
a mercantile
marine

A Navy, unsupported by an extensive mercantile marine, is a hothouse plant, which may indeed produce great results for a time, but cannot endure the severe strain of a long protracted war. No nation can be a really formidable naval Power which does not possess an adequate maritime population. Russia, a half-Oriental, and Turkey, a semi-civilised State, can purchase or build ironclad ships. Their maritime resources would speedily be exhausted in war, because they lack the support of a flourishing mercantile marine.

Continental statesmen are fully alive to the fact that the fighting Navy and the merchant service are necessarily interdependent; and they look with anxious solicitude to the rapid development of the British mercantile marine, and to the naval ascendancy which the progress of her shipping enterprise is calculated to secure for this country.

If the merchant navy affords a reliable standard by which the naval resources of the principal maritime Powers may be compared, the superiority of Great Britain, as set forth in the following tabular statement taken from Captain Richild Grivel's work, 'De la Guerre Maritime,' is established beyond all question.

See Appendix A

Resources of
Great
Britain,
United
States,
France,
Russia

	Great Britain	United States	France	Russia
Total seafaring population }	420,000	350,000	170,000	—
Available for the fleet }	243,000	180,000	60,000	—
Mercantile tonnage (United Kingdom, 5,634,727. British Empire, 1,550,703.	7,185,430	4,144,568	1,058,548	181,000

The relative amount of mercantile tonnage has been included in the comparative table, because it is only inferior in its importance to the relative strength in seamen. Merchant steamers have been proved by recent experience to be readily adapted for service as auxiliaries to more powerful vessels primarily constructed for war. In America, during the war with the Southern States, the Union purchased and armed 322 merchant steamers, which proved to be a most valuable supplement to the

4 OUR NAVAL RESERVES AND COAST VOLUNTEERS

Navy, in assisting to maintain a blockade along an unprecedented length of coast.

Organisa-
tion re-
quired

But, however marked our advantages from the possession of an enormous merchant navy, it is not the less our duty to develop those resources by careful organisation, for the purpose of naval defence. To be first in the field—ever a great advantage—has now become more essential than before ; since the electric telegraph, railways and steam navigation have given increased celerity to the operations of war, both by sea and land.

I

See Ap-
pendix B

BEFORE attempting to frame a scheme of naval organisation, we have to undertake the difficult task of forming an approximate estimate of the number of men who will probably be required to man our fleets in time of war. The inquiries, instituted in 1852, as to the probable requirements of the British Navy elicited the usual divergency of opinions from the naval officers who were consulted.

See Ap-
pendix C

Navy of
United
States in the
Civil War

In the recent civil war in America, the Navy of the United States was increased to vast proportions. Land defences of great strength were attacked by their ships. An effectual blockade was maintained along 3,500 miles of coast. A fleet of cruisers was despatched in chase of the 'Alabama' and other piratical vessels to every part of the world. To perform these varied services some 671 vessels were employed ; but, such was the effect of modern changes in naval warfare, that the number of men employed in the United States fleet never exceeded 51,000 men.

Modern
ships require
fewer men

The blockade of Charleston is one of the most striking examples of the reduced numbers of seamen required in modern naval warfare. The report of the Secretary

of the United States Navy on armoured vessels, published in 1866, contains a despatch from Admiral Dahlgren, dated off Morris Island, January 1864, in which the following observations occur: 'The completeness with which four little monitors, supported by an ironclad frigate, have closed Charleston is well worth noting. These four monitors, which thus keep watch and ward, muster eight guns and 320 men, which is almost insignificant compared with the work done.'

The last Royal Commission on the Manning of the Navy, reporting in 1860, had not the experience of the American war as a guide for determining our probable requirements. But, inasmuch as their report contains the latest authoritative exposition of professional opinion in our own Navy, it deserves attentive consideration. Comparing the recommendations of the Royal Commissions with the estimate submitted to Parliament in the present year, the result is as follows:

Royal Commission on Manning

	Commission, 1860	Estimate, 1871, 1872
Coast Guard	12,000	4,300
Coast Volunteers	10,000	2,200
Royal Naval Reserve	20,000	15,000

We cannot but admit that the introduction of mastless ships, the substitution of steam-power for sails, of mechanical appliances for manual labour, and the changes in naval armament, have considerably reduced the necessary complement of a ship of war. Yet, while fully recognising the altered character of modern Navies, the reserves of seamen, considered to be essential by the Royal Commission, seem small enough, when compared with the probable demands on the Navy of a long protracted war.

6 OUR NAVAL RESERVES AND COAST VOLUNTEERS

Expenditure
of Powers
on Navy

It must, therefore, be assumed that it is the duty of Parliament to increase the strength of our Reserves to the standard laid down in the latest official programme. The following table shows, in round figures, the annual naval expenditure of the principal maritime Powers :

	£
England	10,000,000
France	6,500,000
United States	4,000,000
Russia	2,500,000

Strength
of fleets

Again, comparing the naval tonnage of the three principal maritime Powers, we find that the relative strength of their respective fleets is as follows :

Country	Naval Tonnage (Total Number of Tons)	Proportion of Naval to Mercantile Tonnage
England	660,000	One eighth
France	469,000	One fourth
United States	186,000	One twenty-fourth

With these figures before us, it must be accepted as an axiomatic principle that an increase of the Reserves cannot be obtained, unless we are prepared for a reduction in other branches of expenditure. Can we, or can we not, safely make such a reduction in our peace Navy as will provide for an increased expenditure on our Reserves? This is the problem before us.

Distribution
of men

The Estimates for 1871 contemplate the employment of a force of 29,000 petty officers and seamen in our ships of war. But among the 29,000 so-called seamen are included 2,600 mechanics, 3,000 stokers, and 3,600 servants. Retaining the existing force of 18,000 blue-jackets, can we safely reduce the strength in other less essential branches of our naval force, and apply a portion of the money saved to the completion of our Naval Reserves?

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Naval

Estimated at the most moderate amount, the cost of every blue-jacket in the fleet cannot be less than 50*l.* a year. A seaman of the Reserve Force ought not to cost the country more than 8*l.* a year. Thus six seamen can be maintained in the Reserves for the sum required to maintain one seaman on active service in the Royal Navy. To raise the Royal Naval Reserve to the standard approved by the Royal Commission, an increase of 6,000 men is required. On the other hand, a reduction of 1,000 men in the peace establishment of the Navy would furnish the means of making the proposed addition to the Royal Naval Reserve without any additional charge. In the day of battle, 6,000 well-trained men from the Reserves would be of more value to the country than 1,000 blue-jackets permanently maintained in the Navy.

Cost of
sailors and
Reserve
men

Assuming that the proposed augmentation of the Reserves has received the sanction of Parliament, are we justified in looking to the merchant service for the proposed reinforcement for the Reserves?

It is to be feared that no considerable assistance could be obtained at the present time from this source. The opinion is now almost universally entertained that the number of prime seamen in the mercantile marine adapted for the Royal Navy is falling off; and this lamentable scarcity of highly-trained seamen is mainly attributed to the diminished number of apprentices in our merchant ships.

Limit to
number of
merchant
seamen

From Captain Murray, an able commander in the Peninsular and Oriental service, I have the following discouraging report: 'The quality of the merchant seaman has deteriorated very much, and the number of skilled seamen has decreased. More than half of the men now called seamen are of such a quality as was

Quality of
merchant
seamen

8 OUR NAVAL RESERVES AND COAST VOLUNTEERS

unknown formerly. Some excellent seamen are still to be found: but they are so few that the finest services only can get them. The superintendent of mercantile marine at Glasgow says that he cannot find good men for a few ships of the Peninsular and Oriental Company suddenly requiring crews at that port. Ten per cent. of the able seamen annually shipped in the port of London are foreigners. They are employed because English seamen are not to be obtained.

Captain
Murray's
Opinion

'Omitting from our consideration the men belonging to the Royal Navy and the Royal Naval Reserve, our seamen are inferior to the Swedes, Norwegians, and Germans. In Sweden the system of apprenticeship is extensively adopted. On the coast of China, Swedish ships are frequently seen, manned in a very large proportion by lads, who have gone out for a three years' trading voyage and return home well-trained young seamen. By this system of manning their ships the expenditure is reduced to a minimum, and the Swedes cut out the English shipping in every direction. The deficiency of seamen in England is not caused by insufficient pay. Wages at the present time are very high. Seamen in steamers trading to the Mediterranean are earning 3*l.* 5*s.* to 3*l.* 10*s.* a month, and are found in addition. Their provisions cost about ten shillings a week. The only remedy for the present state of things is the revival, in some shape or other, of the practice of taking apprentices, which has unhappily been too generally abandoned.'

Commander
Dawson's
Views

Another competent authority, Commander William Dawson, R.N., in a paper recently read before the Social Science Association, amply confirms the views of Captain Murray:

'Under the Compulsory Navigation Laws our ships

carried in 1834 34,858 apprentices. In 1857 the apprentices numbered 29,096 ; since which date there has been a steady decline, until they reached, by the last return, only 16,935 ; whilst there were only 4,613 fresh entries to replace the waste of *bonâ fide* seamen, which is estimated at about 16,000 per annum. The other vacancies are filled up by able-bodied foreign seamen, the best of whom come from the north of Europe, and by low-caste British adult landmen.'

The Liverpool Committee of Inquiry into the Condition of Merchant Seamen reported last year that out of 104 shipowners or masters consulted, 89 per cent. regard seamen as deteriorated in skill, 65 per cent. as inferior in physical condition, and 71 per cent. as inferior in subordination. There are upwards of 20,000 foreigners navigating British ships, who are employed solely because our own merchant navy does not supply a sufficient number of trained seamen to man our increasing fleets.

Foreign
seamen

In the foregoing remarks the *diminution* in the numbers of trained seamen in the merchant service has been treated as if it were attributable mainly to the abandonment of the system of apprenticeship formerly in vogue. It would be uncandid not to acknowledge that the introduction of steam, in substitution for sails, has in part conducted to the present state of things. The opening of the Suez Canal, and the recent improvements in steam machinery, which by reducing the consumption of fuel have made steam-power so much more economical than before, have given a new impulse to the construction of steamers.

Effect of
steam

The review of the commercial history of 1870, recently published in the 'Economist,' contains a well-digested report on the transition which is in progress in the character of our mercantile fleet. On the Tyne and

Increase of
steamers

10 OUR NAVAL RESERVES AND COAST VOLUNTEERS

Wear the increase in the numbers of steamers built by local owners is extraordinary. North Shields, which had scarcely a ton of iron shipping five years ago, will, ere the close of next year, possess steam-shipping property worth one million sterling. In the Clyde the increase in the tonnage of steamships is equally remarkable. In 1870 there was a decrease of sixty per cent. in the number of sailing ships constructed on that river. On the other hand, there were launched 121 screw steamers, of a total burthen of 133,000 tons, exceeding by thirty vessels and 50,000 tons the number built in any previous year. The average screw steam tonnage launched during the last seven years was about 65,000 tons, being only the half of the screw steam tonnage launched in 1870. The deduction from these figures is unmistakable. As steamers multiply, the facility for giving to our seamen that thorough training which can only be obtained in sailing ships must be in proportion diminished.

See Appendix D

The Royal
Naval
Reserve

In the present state of the mercantile marine the Royal Naval Reserve is necessarily a stationary force. The enrolment of seamen proceeds slowly, because we have arrived at the length of our tether. If, therefore, we desire to increase the Reserves to the numbers prescribed by the Royal Commission, new expedients must be devised. It has been suggested that the Government should largely increase the number of boys in training in the school-ships at Portsmouth and Plymouth. It is certain that by this means any number of seamen can be admirably trained for the Royal Navy; but the large expenditure which it involves is a serious objection. A boy cannot be trained in the Royal Navy for a less sum than 50*l.* a year; and a raw country lad cannot be converted into a skilful seaman in less than four years.

Consequently a sum of 200*l.* must be expended upon the training of every boy brought up in the Royal Navy. Again, an exclusive training in the Royal Navy is to a certain extent a disqualification for the merchant service, where the discipline and the nature of the employment differ in many important respects from naval practice. It is scarcely necessary to observe that, as we cannot increase the strength of our peace Navy, it will be impossible to retain for service in the fleet the additional number of boys whom it is proposed to train. Under these circumstances the revival, in a modified form, of the old system of apprenticeship in the merchant service appears to be the best, indeed the only practicable, policy.

Expense
of boys

Perhaps it may be thought that the numerous training-ships established at our principal ports could supply an effective education for apprentices to the sea. Training-ships as at present conducted cannot produce sailors. It is essential that the boys should learn their vocation on the blue water. Unless they have practice at sea, boys might be trained equally well at a school, provided with a flag-staff, on shore. With two or three brigs attached to each receiving ship a thousand boys could be turned out every year. As the equipment of such vessels would involve a large additional expenditure, it is probable that assistance from the State might be applied with greater advantage to the encouragement of a more practical system of training.

Sea training
the best

As an economical means of raising seamen for the Royal Naval Reserve, I would recommend that a bonus should be paid from the National Exchequer for every apprentice indentured in the merchant service. The payment of the bonus must necessarily depend upon the fulfilment of certain indispensable conditions. The ships

State bonus
for appren-
tices

Entry and
training of
apprentices

in which the apprentices are employed must be sailing ships. The character and equipment of the ship must be approved by a marine superintendent or by an officer appointed by the Admiralty to supervise the enrolment of Government apprentices. The number of apprentices must be limited; not more than one being allowed to every hundred tons. The apprentice should be indentured at a shipping-office, before a marine superintendent, at the age of fifteen or sixteen years. He should be bound to serve for at least four years as an apprentice, and to serve in the Royal Navy, after the completion of his apprenticeship, for a further period of two years as an ordinary seaman. While in the Navy he should be employed in a sea-going squadron, in which he would be trained in gunnery and small-arm drill, and become accustomed to carry out evolutions aloft with the smartness and precision required in a ship of war. After two years' training in the Royal Navy the apprentice, who would have become a skilled seaman, would return to the merchant service, with the obligation to remain in the Royal Naval Reserve until he was forty-eight years of age.

New class
of Naval
Reserve

Following the opinion expressed by Mr. W. S. Lindsay, I would recommend that no annual retainer should be given; but that the Royal Naval Reserve men of the new class proposed should, whenever called out for an annual or occasional course of drill, receive adequate wages. In order to carry out the policy proposed, it is most important to secure the highest possible degree of efficiency in the Navy. If it were necessary to make a large addition to our naval forces, the Navy proper should supply the petty officers, leading seamen, and gunners; the Reserves, all the able and ordinary seamen for our fleets. A comparatively small standing

Navy backed by well-organised and powerful Reserves will give much greater strength in the hour of need than a far larger peace Navy unsupported by Reserves. In the most successful of modern armies a short service in the ranks has been required from the entire able-bodied male population. This policy has been marvellously successful.

In the scheme which has been sketched out in these pages an attempt has been made to apply the Prussian military system to our own Navy, with such modifications as are necessary to adapt a compulsory system to a force recruited upon the voluntary principle and employed for service afloat. The Government apprentice, trained in the mercantile marine, and bound to serve for two years in the Royal Navy, would take the place of the ordinary seaman now employed in the fleet. A limited period of service would afford to the Navy the power of training an increased number of seamen to take an effective part in the defence of the country.

Having explained the nature of their obligations, I will now indicate the terms which might be offered to eligible lads who would engage to enter the merchant service as Government apprentices.

Shipowners hesitate to take apprentices, chiefly because boys unaccustomed to the sea are useless on board ship. An interval of a year must usually elapse before an apprentice acquires his sea-legs and can render sufficient service to his employer to repay the cost of the provisions which he consumes. It frequently occurs that foreign boys are shipped in English vessels trading to the Baltic. These lads having previously been at sea have become inured to the hardships of a sailor's life, and are found more useful than an English

Shipowners' objection to apprentices

State
premium
advocated

boy who has had no previous training afloat. As an inducement to shipowners to take apprentices, I would propose that the State should pay a premium of ten pounds each for a certain number of so-called Government apprentices; the premium to be payable upon the signing of the indenture of apprenticeship. A further sum of three pounds to be paid to the shipowner to be expended in providing the apprentice with the most essential articles for his sea-kit. During the period of his apprenticeship the apprentice to appear at least once a year at the office of the marine superintendent by whom his indentures were originally registered; and upon proof being given that the terms of the apprenticeship have been honestly fulfilled, the sum of a pound to be paid to the owner, and a like amount to the apprentice, by way of annual bonus from the State. The payment of these annual fees to commence in the second year, and to be continued during the third and fourth years of the apprenticeship.

Change of
residence

Provision could easily be made for a transfer of registry from one shipping-office to another in the event of the apprentice or his parents having changed their place of residence. On the final completion of his apprenticeship, and upon being admitted into the Royal Navy, the apprentice to receive a gratuity of two pounds. Upon the completion of his service in the Navy, and upon his joining the Reserve, the apprentice to receive a final bonus of four pounds. The total amount of these payments is twenty-five pounds. The terms proposed may probably be criticised as unduly liberal. They do not exceed the cost of training a boy for a single year in the Royal Navy.

The bonus
system

There is a precedent for the bonus system which has been suggested in the payment, under the sanction

of the Poor Law Board, of a premium of ten pounds to shipowners who are willing to receive pauper boys into their service to be brought up as apprentices to the sea. If the expenditure of local funds has been approved, surely the appropriation of the public funds for a like purpose, and with a view to the mutual advantage of the apprentice and the State, will not be regarded as an extravagant policy.

See Appendix E

It is not proposed that an annual retainer should be paid to the seamen of the Royal Naval Reserve. As an inducement to continue in the Reserves, and to check the tendency to sail under a foreign flag, they should receive a liberal pension, to commence at an age when failing powers too often compel the sailor to abandon the sea. With this object in view I would suggest that the pension to seamen of the Naval Reserve should commence at the age of fifty, and that the payment should be fixed at eighteenpence a day. The pension proposed may seem too liberal. Unhappily, statistics tell us that but a small proportion of our seamen would enjoy the bounty of the State. In France the seaman—compelled to serve in the Navy by an inexorable law—becomes eligible for an 'Invalides pension' at the age of fifty, subject to the conditions of his having served for a period of twenty-five years afloat in the national or the merchant navy. 'Such is the shortness of life,' says Captain Richild Grivel, 'among the seafaring class in France that only one-fourth of the whole number of the seamen who would be entitled to the pension attain to the qualifying age.'

Pension

The collection of the despatches and letters of Lord Nelson, edited by Sir Harris Nicolas, contains a plan for manning the Navy, which is an interesting relic of our great naval hero.

Nelson's
proposal for
seamen

'When you calculate,' writes Lord Nelson, 'by figures, on the expense of raising seamen, I think it is said 20*l.* per man, and that 42,000 seamen deserted during the late war, the loss in money, in that point alone, amounts to 840,000*l.*; without taking into consideration the greater expense of raising more men, and certainly not so good as those who have been used to the King's naval service. . . . I shall therefore propose that every seaman who has served faithfully five years in war, and, by his certificates, never been concerned in mutinies, nor deserted, shall receive every new-year's-day, or on the King's birthday, the sum of 2*l.*; and if he serves eight years, shall have 4*l.* 4*s.*, exclusive of any pension for wounds. It may appear, at first sight, for the State to pay an enormous sum; but when it is considered that the average life of a seaman is from old age finished at forty-five years, he cannot many years enjoy the annuity.'

Author's
plan

According to the plan which I venture to propose, the seaman in the Reserve would be liberally treated by the State in the two most anxious 'ages of man.' He would receive a welcome aid in early youth, when in our densely-populated country the struggle for daily bread is most difficult; and again he would be befriended by the Government in the premature old age which the seaman too often feels, and which deprives him of the means of earning a livelihood in his laborious and trying vocation. While giving in a generous spirit a helping hand to some among our struggling poor, this system of State-aided apprenticeship would confer a real boon on our merchant service by renewing that supply of well-trained seamen which will never be obtained without some methodical and well-devised system of training. To the Royal Navy a strong

Reserve is of far greater value than a trifling addition to the number of continuous-service seamen.

It may not be necessary to dismiss every seaman trained in the mercantile marine on the completion of his short service in the Navy. A proportion of these young seamen might be allowed to remain in Her Majesty's fleet, as a reward for superior intelligence and good conduct. Their two years' previous service should, in the latter case, be allowed to count towards their pension on retirement. If an apprentice can be trained in the merchant service sufficiently well to become useful in the fleet for an eighth of the sum which it would cost to bring up a boy in the Royal Navy, surely a system so infinitely more economical ought not to be hastily condemned.

Renewal of
service
advocated

The value of the Royal Naval Reserve has been seriously questioned by very competent naval authorities. They complain of inferiority in physique, of the loose discipline, and of ignorance of every description of drill. These criticisms, it must be admitted, are not devoid of foundation. On the other hand, it should be remembered that in the miscellaneous body which constitutes the Royal Naval Reserve, large numbers of men are to be found of whose capabilities and conduct very favourable opinions have been formed by the officers under whom they served.

Opinion
of Naval
Reserve

I may point out that under the present regulations a uniform retainer is paid irrespective of the discipline and proficiency in drill of the individual. A marked distinction should be drawn between those who do and those who do not acquire a competent knowledge of their duties. A minimum retainer of five pounds might be paid to every man who is allowed to remain in the service. This sum should be increased to a maximum

Retainers
to Reserve
men

of seven pounds, as a reward for proficiency in the various drills in which the Reserves are instructed.

In this connection we must never forget that the Royal Naval Reserve affords in point of fact the only means of manning our fleets in the supreme emergency of war.

Necessity
of a large
reserve

To some, perhaps, it may appear an unnecessary expense to create reserves of seamen in time of peace. It may be thought that with a small addition to our ordinary naval means we should be able to cope with the Navies of every maritime power inferior to our own ; and that in the event of a war large numbers of seamen would be thrown out of employment and readily volunteer for the Navy. To this line of argument it may be urged in reply that even if our ordinary trade were interrupted by war the demands upon the merchant service for the conveyance of troops and stores would give full employment to our seamen ; and that it is accordingly essential to secure for the State, by the payment of an annual retainer, or by giving a bonus to apprentices, a prior claim to the services of the best seamen we possess.

See Ap-
pendix F
Impress-
ment no
longer
possible

Even in days gone by impressment was a most unsatisfactory expedient. It is now impossible. The facilities of escape by railway and steamship, and the sympathy of public opinion with men torn from their homes against their will, would render impressment no longer practicable.

See Ap-
pendix G

‘Impressment,’ as was observed by Mr. C. H. Pennell, in his paper written in 1852 on the manning of the Navy, ‘is a measure which the country itself recoils from using. It is unsuited to the character of the age ; harsh in its exercise ; exhausting in its process ; and more than problematical in its results. By the substi-

tution of a volunteer service of trained seamen for the compulsory service of untrained men, we should seek to exemplify on a large scale the sound experimental wisdom contained in the old naval adage, "one volunteer is better than two pressed men."

The difficulty arising from the abandonment of the system of compulsory service has been as keenly felt in America as in England. The report of the Secretary of the United States Navy for the year 1869 shadows forth a scheme based upon principles identical with those advocated in these pages. 'It becomes necessary,' writes Mr. Robeson, 'that some means should be devised to bring the seamen in this country to its protection in time of war. The people would not object to the payment of suitable bounties, and making proper provision for the family of the sailor, provided the Government could certainly secure their services when required.'

Secretary
of United
States Navy

'By adopting, as far as practicable, a system of registry and enrolment for active and reserve seamen, induced, if need be, by a liberal periodical advance of clothing and money, and by bounties when necessary, we may do much towards the speedy restoration of the personnel of our Navy, and, by adding to this a regular system of training for petty officers and first-class seamen, its ancient prestige and glory may be increased.'

Having shown that the Royal Naval Reserve is the only practicable scheme for securing a supply of seamen for our Navy in the event of war, we have now to consider what number of apprentices it is expedient to assist by a grant of special aid from the State. It has already been stated that our present Royal Naval Reserve is 14,000 strong, being less by 6,000 than

Number of
apprentices
required

the Reserve recommended by the Royal Commission of 1860.

To maintain a force of a given number of able seamen it will be necessary to keep one-third of that number constantly in training as apprentices. Assuming, therefore, that we increase the Royal Naval Reserve by 6,000 men, we must have 2,000 additional boys always under training. Assuming an annual expenditure of 6% for each Government apprentice, and 50% for every lad under training in the Navy, we should have an annual outlay of 12,000% for training 2,000 boys in the merchant service, as compared with an annual expenditure of 100,000% for educating the same number of boys in the Royal Navy.

If the plan of training boys in the merchant service be adopted, a reduction of 240 men, the complement of a single corvette, in the force employed in the peace Navy would enable the Government to secure, without adding to our present naval expenditure, a sufficient training for the number of boys required.

Reserve of
officers

Having suggested means for obtaining the seamen, we have next to deal with the equally important question of supplying a reserve of officers. These can be obtained, as they were in the civil war in America, from the merchant service.

Increase of
officers in
American
war

The Secretary of the United States Navy, in his Report for the year 1865-66, states that about 7,500 officers of the merchant navy had, after examination, received appointments and been employed in the Navy of the Union. 'Schools,' he says, 'were established to instruct and perfect them in the rudiments of naval gunnery; and it is due to them to say that they have acquitted themselves with zeal and fidelity. The intercourse between these volunteer officers and the officers of

the regular Navy has been productive of mutual goodwill and respect. It will, I trust, lead to a lasting personal friendship, and constitute an enduring intimacy between the commercial and naval services. Most of the volunteer officers have received an honourable discharge, and returned to their peaceful professional service.'

In this connection I would suggest that in future the same regulations should apply to our volunteer services, both by sea and land; and that no officer should receive a commission in the Royal Naval Reserve whose efficiency had not been previously tested in the rudiments of naval gunnery. A short course of training should be commenced on board the 'Excellent' for the instruction of the Reserves; and no officer of the merchant service, and no yacht owner, should hereafter be allowed to receive a commission in the Reserves who had not been trained in the 'Excellent' and received a certificate of proficiency.

Training of
Reserve
officers

II

FROM the Royal Naval Reserve we turn to the Coast Volunteers. Such a force is capable, under judicious administration, of rendering invaluable service; but it has hitherto been most unaccountably neglected.

Coast
Volunteers

The fishing population is regarded by French naval authorities as an invaluable and essential element in their Navy.

In a recently published pamphlet on the condition of the French Navy in 1865, Prince de Joinville observes: 'La seule branche de notre navigation qui ne dépérísse pas en ce moment est la pêche. Celle qui se fait sur le littoral voit les chemins de fer assurer un débouché et une plus grande valeur à ses produits par

Prince de
Joinville

le transport rapide du poisson. Quant à la grande pêche, celle qui s'arme pour l'Islande de Terre-Neuve, elle se maintient, grâce aux avantages protecteurs dont elle jouit encore. Grande et petite pêche font donc aujourd'hui l'emploi de la majeure partie de notre personnel naval ; à la différence de ce qui se passe chez les autres peuples marins, où elles ne sont qu'un accessoire.'

The Royal Commission advised that the Coast Volunteers should be raised to a normal strength of 10,000 men. It may be interesting to mention that the French Commission on the manning of their Navy, reporting in 1843, recommended that a force of 13,000 men should be held in reserve for the defence of the French coast. This opinion has been confirmed by high authorities in the French Navy, who have more recently been called upon to report on this subject.

Deficient
number of
Coast
Volunteers

At present the Coast Volunteers are reduced to 2,200 men. The actual strength, therefore, as compared with the standard proposed by the Royal Commission, shows a deficiency of 7,800 men. Happily there need be no anxiety as to the existence of available recruits. From a return recently presented to Parliament, it appears that there are in the vessels employed in the fisheries in the ports of England and Wales 47,290 men and 7,467 boys ; in Scotland, 68,406 men and 4,773 boys ; in Ireland, 37,083 men and 1,729 boys ; making a total of 152,779 men and 13,969 boys.

Fishermen
for coast
defence

I need scarcely enlarge on the peculiar qualifications of our fishermen for the manning of a coast-defence flotilla. Those among them more especially who hail from the northern ports are men of the most powerful physique. A distinguished officer, now an admiral of the Royal Navy, who recently held a divisional command in the Coast Guard on the Clyde, informs me that

a body of 600 men, enrolled by him a few years ago in the Naval Coast Volunteers in Scotland, averaged one inch taller and two inches more round the chest than the marines on board his ship. It may be true that the complaints of the inefficiency of the Coast Volunteers on their first enrolment were not without foundation. But it is only fair to say that, as in the case of the Royal Naval Reserve, so in the case of the Coast Volunteers in the original enrolment, sufficient care was not always exercised to reject unsuitable men.

A recent attempt has been made to form a subsidiary force, by the enrolment of young seamen in a second-class reserve; but the rules laid down for admission to this force are so framed as to exclude absolutely all those large sections of our seafaring population who are employed in vessels rigged on the fore and-aft system. Fishermen, brought up in smacks, cutters, and luggers, may or may not be ignorant of the evolutions required in a large square-rigged vessel. Admirable for work on deck in a small gunboat rigged after the fashion to which they are accustomed, they may be incapable of going aloft on the royal-yard of a line-of-battle ship. But why require from them qualifications which, if they are employed, as they ought to be, exclusively on our flotilla for coast defence, they will never be called upon to put in practice?

Second-class
reserve

Our fishermen possess many of the qualifications proposed for the second-class reserve. 'They can steer; box the compass; heave the lead; and pull a strong oar.' Above all, the fishermen employed in their daily avocation upon our own coasts will contribute to the service of the Navy an intimate knowledge of an intricate navigation, with which from long habit they have become familiar, but which the officers and men brought

Local know-
ledge of
fishermen

up in the Navy, and chiefly employed on foreign stations, have few opportunities of studying. They alone who are acquainted with the navigation among the sandbanks extending along the eastern coast of England, from the South Foreland to the north of the Humber, can appreciate the immense importance of providing for a coast-defence flotilla in such waters crews composed of seamen possessing a local knowledge of that coast.

Aptitude of
fishermen

To some it may appear doubtful whether all the dash and *élan* required for naval operations is to be found among the stay-at-home people who earn a livelihood in our fisheries. Had they seen, what the author has often witnessed, the agility, the seamanlike resource, and the nerve which these men never fail to display in the ever-varying incident and adventure of sea-life, they would no longer doubt their aptitude, if properly trained, for every duty which the crews of our coast flotilla may be called upon to perform.

See Ap-
pendix H
Testimony
of naval
officers

The enrolment of fishermen in the Reserves has been advocated by our most experienced naval reformers—by Sir Charles Napier, by Admiral Berkeley, by Sir William Hall, by Admiral Hastings, by the late Admiral Sir David Milne, and by many other most distinguished naval officers. The capabilities of fishermen as a Naval Reserve have perhaps been studied by no naval officer more carefully than by Sir William Hall. He has confidently stated that the fishermen are from their occupation peculiarly fitted for service in our coast-defence flotilla; and, from their having fixed places of residence, they are the more easily to be obtained in the hour of need. The seamen of the merchant service, accustomed to a roving life over the wide ocean, are subject to temptations to serve under a foreign flag, to which the fishermen, whose habits are essentially

domestic and who have, with rare exceptions, fixed places of residence to which they are greatly attached, are not exposed.

The most desirable men for the coast-defence sea Militia are to be obtained at Penzance, Brixham, Brighton, Hastings, Folkestone, Deal, Barking, Colchester, Lowestoft, Yarmouth, Cromer, Berwick, Dunbar, Newhaven, Anstruther, Aberdeen, Peterhead, Cromarty, Wick, Shetland, Orkney, and the western islands of Scotland.

Our seafaring population at first regarded with wonted suspicion the invitation to join the Reserves. Their prejudices have been overcome by kind treatment. Many who are now anxious to join the Reserves are excluded by their want of experience in square-rigged vessels. To reject these men altogether when our gunboat flotilla and our mastless turret-ships will require large numbers of men trained to gunnery and accustomed to the sea, but in which agility aloft can never be required, seems to be a policy so blind and prejudiced that it is difficult to understand how it can ever have received the sanction of our naval authorities. The rules for admission into the Coast Volunteers should be so framed as to require only such seamanship as every experienced fisherman must possess. Training in gunnery and small arm-drill are the only additional qualifications needed to make our fishermen thoroughly useful in the coast-defence flotilla. The training should be given afloat; and in order to propitiate the local sympathies of the fishermen the gunboats which they would be employed to man in times of war should be permanently stationed at the ports in which their crews are respectively raised.

Training
of Coast
Volunteers

Officers should be selected to command the coast-

Officers for
coast-
defence
Reserve

defence Reserve who have exhibited special aptitude for that branch of the service. They should reside at the principal fishing ports, and be permanently attached to the coast - defence service. By these means they would have the inestimable advantage of being personally acquainted with the men under their command. In his evidence on the manning of the Navy, in 1852, Admiral Berkeley stated that special care should be taken in the selection of officers for the coast-defence service, and that it was essential that all the officers, and particularly the commanding officer, should be accustomed to the fishermen and they to him. In addition to the proposed drills in gunnery and the use of small arms, it would be highly expedient that officers and men should make themselves locally acquainted with the channels and entrances to the harbours in their respective districts, and be instructed in the use of the torpedo and its application to coast defence.

Coast Guard

As a measure of economy, the duties of the Coast Guard might advantageously be combined with the command of the coast - defence Reserve. The annual drills afloat, and the musters of the coast - defence flotilla for inspection by the divisional captain of the Coast Guard, or for inspection in larger numbers at naval reviews, would secure the continued efficiency of the officers of the coast-defence service in seamanship and navigation.

Number of
officers for
coast-
defence

Having dealt with the general system of training, my next task shall be to form an estimate of the number of officers required for our coast-defence service. It may be assumed that our coast - defence flotilla will consist of a hundred gunboats and thirty monitors, and that we shall want a hundred lieutenants for the

hundred gunboats, and thirty commanders and thirty lieutenants for the thirty armour-clad monitors.

The precise number of vessels to be equipped for the defence of our coasts must of necessity be determined upon an arbitrary hypothesis. In 1852 Sir Byam Martin gave it as his opinion that we ought to have a reserve of twenty steamers in each great port—the Medway, Portsmouth, and Plymouth—together with five at Pembroke and five at Cork. By means of these squadrons stationed along the coast constant intercourse would be kept up between Harwich and Scilly. A similar force was proposed by Sir Thomas Hastings, to be composed of 135 steamers distributed at important stations along the coast. A squadron of twenty-five steamers was to be added for service in the North Sea. Twenty were to be stationed at Holyhead and twenty at Cork. The proposed stations being about ten hours' steaming from each other, it was believed that the electric telegraph would secure at any assailable part of the coast the presence of a sufficient force to prevent the disembarkation of an army of invasion with the necessary matériel of war.

There are at present employed in the Coast Guard fifty commanders, nineteen lieutenants, three staff-commanders, and six navigating lieutenants. It has been assumed that not more than thirty commanders and one hundred and thirty lieutenants would be required for the proposed coast-guard flotilla; and, inasmuch as we have already in the Coast Guard seventy-eight officers fully qualified to command in the coast-defence Reserve, it is clear that the necessary complement of officers could be readily made up from the list of unemployed commanders and lieutenants. The divisional captains of the Coast Guard could take

Number of
vessels for
coast-
defence

Officers for
coast-
defence

Chief command

command of the flotilla maintained for coast defence within the limits of their several divisions ; and the supreme command of the entire service of the coast-guard reserve ships and the coast-defence flotilla might be entrusted to three flag-officers—one for the English Channel, a second for the North Sea, and a third for the St. George's Channel and the west coast of Scotland.

Retainers for Volunteers

There is no need of the apprentice system for the purpose of training the Coast-Defence Volunteers. A retainer should be paid to the volunteer for each year of service in that branch of the Reserves. The amount which it will be necessary to pay must be ascertained by local inquiry. Probably the minimum retainer might be fixed at 3*l.*, increasing to 5*l.* as a reward for superior discipline and proficiency in drill. Daily pay on a fixed scale must be given to the fishermen while under instruction in the gunboats.

Summary

We have now endeavoured to deal with our deficiencies in the two main elements of the Naval Reserve Force—namely, the Reserves for Coast Defence, and the Reserves for Sea-going Cruisers. The filling up of the Coast Guard to the strength recommended by the Royal Commission has not been urged. The Coast Guard, although a most valuable, is also a very expensive force ; and it is essential to keep in view the necessity for economy, as well as the efficiency of the service. The public money would be most advantageously applied in raising the numbers of the Royal Naval Reserve and the Coast Volunteers to the standard approved by the Royal Commission, rather than in adding a larger number of men to the existing strength of the Coast Guard.

Having sketched out a general plan for the enrolment of our Reserves and for the formation, training, and

command of our coast-defence force, I will, with a view to illustrate the capabilities of the proposed Reserves, endeavour to show in detail the number of vessels which the force proposed is competent to man.

Let us assume a force, permanently maintained during peace, of 25,000 petty officers and seamen, being 4,000 less than the number voted in the year 1871-72, but supplemented by 20,000 Royal Naval Reserve men and 4,000 Coast Guards, being a total force of 49,000 men. With this number of seamen it would be possible to man the following fleet of sea-going cruisers :

Vessels to be manned

Number of Ships	Class of Ship	Complement of Petty Officers and Seamen for a Ship of this Class	Total Seamen required
30	Bellerophon or Hercules class	400	12,000
40	Inconstant or Blanche . .	400	16,000
100	Danae . . .	150	15,000
100	Despatch vessels	75	7,500
		Total . . .	50,500

Should the estimated complements appear in some cases insufficient, it would be possible to augment the number of marines usually detailed for duty in each ship.

Having provided our sea going fleet with their crews, we return to our coast-defence flotilla.

For each of these vessels it is proposed to maintain in time of peace, in addition to the officers mentioned, one engineer to each gunboat and two for each monitor, and two trained men in gunnery in each gunboat and six in each monitor. The remainder of the crews could be supplied by the coast defence corps.

Coast-defence flotilla

Distribution
of Volun-
teers

The distribution of Coast Volunteers in the coast-defence flotilla is shown in the following statement:

Nr. of Vessels	Class	Officers	Seamen Gunners	Coast Volunteers	Total
30	Monitors	1 Commander 1 Lieutenant	6	60	1,800
100	Gunboats	1 Lieutenant	2	40	4,000

Total number afloat 5,800

For disposal 4,200

Total force 10,000

In addition to the staff included in the tabular statement a certain proportion of warrant officers would be necessary.

The 4,200 volunteers for disposal would in part replace the Coast Guard, who in time of war would serve afloat, in part be employed in manning small vessels and rafts, such as the 'Lady Nancy,' temporarily armed with guns for the defence of our ports and roadsteads. The remainder would be advantageously posted in our coast fortifications and defences.

Reserve of
engineers
and firemen

Commissions and committees have carefully inquired into and elaborately reported upon the manning of the Navy with seamen and marines. The urgent necessity of forming a Reserve of engineers and firemen has been strangely disregarded. During the Crimean war this difficulty was keenly felt. Inferior men were entered into the Navy as engineers at that period. From an establishment with which the writer was subsequently connected, it was a common practice during the war when a workman proved to be slow, or comparatively unskilful, to draft him off as an engineer into the gunboats which were then being built for the Baltic. To

provide against the recurrence of such a state of things a careful inquiry should be held at our principal ports, with the view of ascertaining the terms which it would be necessary to offer in order to secure a sufficient number of engineers of competent experience for the Steam Reserve of the Navy. The strength of the Reserve must be varied from time to time, with reference to the number of ships in the Navy available for naval service. The officers and men of the Steam Reserve would not be required to join the fleet in the time of peace. The annual retainer should be paid at the port at which they are registered.

The peace establishment of the Navy, as proposed in the preceding pages, is not so numerous as that which for some years past it has been thought politic to maintain. Behind our naval forces in commission and reserve we have, as Mr. Childers reminded the House of Commons, the great mercantile navy of England, with its 230,000 British seamen.

In olden days our merchant seamen may have distrusted and disliked the naval service. These ancient prejudices, now happily passing away, will be more and more effectually removed in proportion to the pains which are taken to make the advantages of the Royal Navy more generally appreciated and understood. Our ports are still too seldom visited by men of war. According to the unanimous testimony of naval officers, the presence of our fleets would serve to awaken in the merchant service an interest in the Royal Navy which can never be felt unless the two services are occasionally brought into contact with each other. We have been assured by Admiral Cooper Key that it is most desirable that the officers attached to the coast-guard service should have frequent opportunities of practice

Peace footing of Navy

Sympathy between Navy and merchant service

See Ap-
pendix I

in naval tactics under steam. If the ships composing the Reserve Fleet were brought together every year for practice in naval manœuvres they might, at a small additional expense, pay visits to our great mercantile ports, where their occasional presence would undoubtedly promote in a large degree the popularity and prestige of the Navy. 'Wherever the Royal Navy is best known, there the seamen are most ready to join it.' Hampshire, Dorsetshire, and Cornwall, the counties in which our dockyards are situated, supply the greater number of seamen to the Royal Navy. It is our duty to encourage by every possible means the loyal sympathies of our seafaring population.

Finally, while we fully appreciate the naval means of other nations, a calm survey of our own resources can scarcely fail to satisfy even the most anxious alarmist that, as yet we need not be afraid ; and that old England still is, and may long remain, the unchallenged mistress of the seas.

APPENDICES

APPENDIX A

MR. SACKVILLE WEST, in his recent report on the shipping of France, quotes the following passage from a French writer, which very clearly exhibits the views entertained abroad on this subject :

' Tandis que la marine de guerre française n'est inférieure que d'un tiers nominal à la marine de guerre anglaise, et tandis que son budget s'est accru du triple dans ces vingt dernières années, notre marine marchande, cabotage et long cours, ne s'élève encore qu'au septième de la marine marchande anglaise. Chacun sait que les progrès des marines marchande et militaire devraient aller en pair, la marine militaire se formant

avec les éléments que lui fournit la marine marchande. Il s'ensuit que, par rapport à l'Angleterre, notre marine militaire est quatre fois trop considérable pour notre marine marchande, ou bien que notre marine marchande est quatre fois trop faible, eu égard à notre marine militaire.

'Il y a là une anomalie digne d'attention.'

APPENDIX B

THE conditions of naval warfare have, in our days, been so completely revolutionised that the experience of the past affords but a slight clue to the requirements of the future.

In 1805, a year memorable in our annals for the crowning naval victory of Trafalgar, 114,000 seamen and marines were voted for the naval service. This number was increased in subsequent years to 147,000: but it is certain that our naval power derived no advantage from the increase in the numerical strength of our naval forces.

An eminent officer of the United States Navy, Admiral Goldsborough, has stated, in a memorandum addressed to his Government, that the most effective vessels for coast defence will be swift and handy armour-clad ships without guns, and to be used exclusively as rams. By the adoption of vessels of the type recommended by Admiral Goldsborough the number of men in our flotilla for coast defence might be materially diminished.

APPENDIX C

SIR JOHN STIRLING estimated that 60,000 men would be necessary to man the Navy in time of war. Admiral Denman, on the other hand, believed that on the outbreak of a war a fleet of 100,000 men would be immediately required; but, inasmuch as of the 40,000 employed in 1852 only 15,000 were seamen, he believed that of the 60,000 additional men required for a war Navy only 23,000 need be seamen.

The effect of modern mechanical appliances in relation to the manning of the Navy was scarcely perceived at the time of the Crimean war; but the fact that the number of seamen

and marines employed in the British fleet at that period never exceeded 68,000 afforded some indication of the coming change.

APPENDIX D

It must not be supposed that the change which is taking place in the nature of the seaman's employment necessarily tends to lower his moral character and general intelligence. It has been well observed by Mr. Gideon Wells, the Secretary to the United States Navy, that 'the men-of-war's man of the present day has all the noble and generous qualities of the sailor of former times, and has not deteriorated in courage, ability, skill in handling guns, nor in devotion to his flag. He is not the seaman he was before the introduction of steam, but his qualifications are of as high an order; and, since the lash and intoxicating drinks have been expelled from the service, the *morale* and discipline of the men-of-war's men of the present day is an improvement on the past.'

APPENDIX E

THE observations made by Mr. Graves, in his evidence before the select committee of 1860 on merchant shipping, are strictly true at the present time. 'What we want,' he said, 'is a comprehensive system which, in place of confining itself, as it used to do, to the maritime ports, would tap the whole country and from the schools of the country draw these lads in the first instance to training-ships, and after a year's preliminary education on board these ships then be indentured for a certain number of years on board merchant ships, after which the Navy or Naval Reserve. These lads would then be of the very utmost value as an element in the defence of the country, and they would indirectly be of great value also to shipowners. It is only a question of time when it will have to be resorted to.'

APPENDIX F

GREAT was the difficulty of keeping men enlisted by force on board the ships to which they were appointed.

Lord Nelson, in one of his letters published by Sir Harris

Nicolas, complained bitterly that his ship was compelled to lay off the Nore, at a distance of seven miles from the land, in the impress service; and declared that he was as much separated from his wife as if he were in the East Indies.

APPENDIX G

THE number of men to be obtained by impressment has been much exaggerated. In 1774 not more than 30,000 men were obtained under the combined operations of bounties and impressment. Nor let it be supposed that impressment was a cheap means of securing seamen for the Navy. It was stated by Mr. Pennell that the impressment system cost in the nine years ending 1773, 1,359,156*l*.

Lord Nelson, in his paper on the manning of the Navy, to which I have already referred, dwells strongly on the desertion which so commonly occurred in a fleet manned under the impressment system. 'It will be found,' he observes, 'that whenever a large convoy is assembled at Portsmouth, and our fleet in port, not less than 1,000 men desert from the Navy; and I am sure that one-third of this number, from loss of clothes, drinking, and other debauchery, are lost by death to the United Kingdom.'

The following statement, made by Lord Clarence Paget in the House of Commons in the session of 1860, abundantly confirms all that has been said of the inefficacy of impressment: 'During the years 1811, 1812, and 1813, the closing period of the great war with France, there were pressed into the service 29,405 men, while the number of those who deserted was 27,300, so that the total gain to the country during those three years, by impressment, was 2,105 men. But in order to bring those men thus compulsorily into the service, 3,000 good sailors had been employed on shore as pressgangs. Therefore the country actually lost about 1,000 men during those three years under the system.'

APPENDIX H

SIR CHARLES NAPIER proposed that our Steam Reserves should be stationed at the different ports; that the officers and crews of the Coast Guard should be on their books, and

that their complement should be completed from the boatmen and fishermen on the coast.

Admiral Berkeley, who had devoted the greatest attention to the manning of the Navy, was strongly in favour of the enrolment of fishermen in the Reserves. They were, in his view, to be regarded as a sea militia, to be employed for coast defence in steamers and steam gunboats not to go beyond the Channel. He advised that they should be called out periodically, and that they should be clothed when so called out; and that they should be paid on a corresponding scale—*cæteris paribus*—with the land militia.

Admiral Berkeley expressed the most implicit confidence in the fishermen as a body of men who could be organised as a sea militia for coast defence. With these men behind him he declared that he should be perfectly satisfied to take his share in the responsibility of defending our shores, and making the Channel a place of refuge for our flag, until more extensive means were adopted for manning the fleet.

Admiral Hastings, one of the witnesses examined by the commission of 1852, gave similar evidence to the effect that the fishermen would be well adapted on an emergency for the naval service; and that their stationary habits were a strong point in their favour.

Captain Oliver, another witness before the same committee, whose recent connection with the Coast Guard had given him peculiar opportunities of observing the fishermen in various parts of the coast, spoke of the fishermen of the Isle of Wight in the following terms: 'At South Yarmouth, a notorious smuggling district, which I commanded for six years, the terms fisherman and smuggler were synonymous; yet I could not but respect them as a noble as well as a hardy race.

'I consider fishermen generally of very domesticated habits.'

In 1852 the officers stationed at Yarmouth, Hastings, Fowey, Milford, Swansea, Berwick-on-Tweed, Leith, and Banff, all of which are important centres of the fishing enterprise of this country, reported in favour both of the eligibility of the fishermen and of their disposition to enrol themselves in any force which might be established for the purpose of coast defence.

APPENDIX I

SECTION I

Abstract Statement, showing Birthplace of Men and Boys serving in the Navy in 1852, taken from the Appendix of the Committee of 1852, on 'Manning the Navy'

County	No. of Men	No. of Boys	County	No. of Men	No. of Boys
ENGLAND:			Wiltshire . . .	138	28
Bedfordshire . .	12	8	Worcestershire . .	27	3
Berkshire . . .	67	10	Yorkshire . . .	282	9
Berwick - upon - Tweed . . .	10	—		14,756	8,053
Buckinghamshire . .	33	1	WALES:		
Cambridgeshire . .	30	6	Anglesea . . .	23	6
Cheshire . . .	48	1	Brecon . . .	2	—
Cornwall . . .	1,411	213	Cardigan . . .	23	1
Cumberland . . .	65	2	Carmarthenshire . .	15	2
Derbyshire . . .	9	2	Carnarvonshire . .	28	—
Devonshire . . .	3,116	747	Denbighshire . . .	14	—
Dorsetshire . . .	301	82	Flintshire . . .	9	—
Durham . . .	86	1	Glamorganshire . .	54	—
Essex . . .	195	29	Merionethshire . .	6	—
Gloucestershire . .	84	4	Monmouthshire . .	22	4
Hampshire . . .	2,909	603	Montgomeryshire . .	5	—
Herefordshire . .	17	2	Pembrokeshire . .	139	19
Hertfordshire . .	30	8		340	32
Huntingdonshire . .	8	—	SCOTLAND:		
Isle of Man . . .	34	1	Aberdeenshire . .	58	2
Isle of Wight . . .	233	64	Argyleshire . . .	48	2
Kent . . .	2,085	648	Ayrshire . . .	27	1
Lancashire . . .	257	26	Banffshire . . .	14	2
Leicestershire . .	18	2	Berwickshire . . .	3	1
Lincolnshire . . .	58	1	Bute . . .	7	—
Middlesex . . .	1,514	286	Caithness . . .	10	—
Norfolk . . .	238	15	Clackmannan and Kinross . . .	5	—
Northamptonshire . .	15	4	Dumbartonshire . .	6	—
Northumberland . .	42	2	Dumfriesshire . .	23	1
Nottingham . . .	30	3	Edinburghshire . .	137	7
Oxford . . .	26	8	Fifeshire . . .	47	2
Rutland . . .	1	—	Forfarshire . . .	78	1
Scilly Islands . . .	7	—	Haddingtonshire . .	11	—
Shropshire . . .	14	—	Inverness-shire . .	23	—
Somersetshire . . .	367	54	Kincardineshire . .	7	—
Staffordshire . . .	36	2	Kirkcudbrightshire . .	4	—
Suffolk . . .	136	12	Lanarkshire . . .	115	2
Surrey . . .	138	30	Linlithgowshire . .	4	1
Sussex . . .	640	137			
Warwickshire . . .	45	9			
Westmoreland . . .	4	—			

SECTION I.—*contin*

County	No. of Men	No. of Boys	County	No. of Men	No. of Boys
SCOTLAND— <i>cont.</i>					
			Dublin . . .	207	25
Morayshire and Nairnshire . .	6	—	Fermanagh . .	7	—
Orkney and Shetland . .	87	2	Galway . . .	42	8
Peeblesshire . .	1	—	Kerry . . .	85	18
Perthshire . .	20	1	Kildare . . .	5	—
Renfrewshire . .	46	—	Kilkenny . . .	7	2
Ross and Cromarty . .	22	2	King's County . .	5	—
Selkirkshire . .	2	—	Leitrim . . .	1	—
Stirlingshire . .	10	—	Limerick . . .	38	4
Sutherlandshire . .	3	—	Londonderry . .	25	8
Wigtonshire . .	17	1	Longford . . .	1	1
	796	28	Louth . . .	28	6
			Mayo . . .	33	9
			Meath . . .	4	—
			Monaghan . . .	5	1
			Queen's County . .	8	—
			Roscommon . . .	5	8
IRELAND :					
			Sligo . . .	11	6
Antrim . . .	87	5	Tipperary . . .	20	1
Armagh . . .	8	2	Tyrone . . .	6	1
Carlow . . .	2	—	Waterford . . .	65	18
Cavan . . .	4	1	Westmeath . . .	7	2
Clare . . .	29	4	Wexford . . .	46	5
Cork . . .	1,104	233	Wicklow . . .	22	5
Donegal . . .	27	5	Not known . . .	21	10
Down . . .	45	2		2,005	870

SECTION II

Statement giving the Names of Towns contributing more than 50 Men and Boys to the Naval Forces in 1852

Towns	Men	Boys	Towns	Men	Boys
ENGLAND :					
Cawsand . . .	81	15	Devonport, including Stonehouse, Plymouth and vicinity (<i>see</i> Torpoint, &c.) . .	2,317	588
Falmouth, including Flushing, Mylor, and Penryn . . .	264	84	Exeter . . .	92	26
Millbrook, including Maker . .	87	21	Weymouth, including Wyke Regis . .	55	16
Saltash, including St. Stephens . .	111	16	Fareham . . .	68	14
Torpoint, including Antony and Wilcove . .	223	28	Portsmouth, including Gosport, Portsea, Alverstoke, and vicinity . .	2,311	478

SECTION II.—*continued*

Towns	Men	Boys	Towns	Men	Boys
ENGLAND— <i>cont.</i>			Bristol, including		
Southampton, including Itchin and Millbrook .	91	80	Clifton . .	149	13
Isle of Wight .	283	64	Brighton . .	144	20
Canterbury .	76	10	Chichester . .	99	9
Chatham, including Rochester, Stroud, &c. .	307	181	Hull . . .	76	2
Deal . . .	78	32	SCOTLAND :		
Deptford . .	123	18	Dalkeith . .	83	6
Dover . . .	79	85	Glasgow . .	112	2
Gillingham . .	63	9	IRELAND :		
Greenwich . .	119	24	Belfast . . .	50	2
Maidstone . .	95	23	Cork . . .	408	80
Sheerness, including Minster and Queenborough .	264	72	Kinsale . . .	59	8
Woolwich, including Plumstead and Charlton .	222	50	Queenstown .	167	24
Liverpool . .	168	20	Whitegate . .	50	2
London, including Lambeth, Southwark, &c. .	1,477	275	Dublin . . .	170	3
Yarmouth . .	82	6	CHANNEL ISLANDS :		
Bath . . .	56	15	Guernsey . .	69	7
			Jersey . . .	101	15

GENERAL ABSTRACT

	Men	Boys
England	14,756	3,053
Wales	340	32
Scotland	796	28
Ireland	2,005	370
	17,897	3,483
	Men	Boys
Guernsey	69	7
Jersey	101	15

SECTION III

*Return showing various Towns * (or their neighbourhoods) in which Boys in Training Ships were born and entered*

Her Majesty's Ship 'Impregnable,'
Devonport, January 1, 1871

Town	Number		Town	Number	
	Born	Entered		Born	Entered
Bath . . .	16	10	Gravesend . .	8	—
Bristol . . .	25	19	Gosport . . .	25	—
Birmingham . .	41	54	Gloucestershire .	10	—
Brighton . . .	24	5	Hull . . .	5	2
Bideford . . .	7	—	Hampshire . . .	53	—
Bridgwater . . .	10	—	Herefordshire . .	7	—
Birkenhead . . .	8	83	Hertfordshire . .	7	—
Bedfordshire . .	4	—	Ilfracombe . . .	2	—
Berkshire . . .	12	—	Leeds . . .	8	11
Buckinghamshire .	5	—	London . . .	694	327
Cheltenham . . .	12	8	Liverpool . . .	44	60
Chichester . . .	7	—	Lancashire . . .	25	—
Chatham . . .	13	—	Leicestershire . .	7	—
Coventry . . .	5	2	Lincolnshire . . .	5	—
Cardiff . . .	2	—	Kent . . .	49	—
Cambridgeshire . .	6	—	Macclesfield . . .	3	—
Cheshire . . .	13	—	Margate . . .	2	—
Cornwall . . .	99	—	Merthyr Tydvil . .	4	—
Cumberland . . .	4	—	Norwich . . .	9	—
Deal . . .	13	—	Nottingham . . .	13	22
Dover . . .	12	18	Northampton . . .	4	—
Deptford . . .	8	—	Norfolk . . .	2	—
Devonport . . .	193	450	Nottinghamshire . .	5	—
Devizes . . .	5	—	Northamptonshire .	2	—
Devon, South . . .	117	—	Northumberland . .	4	—
Devon, North . . .	15	—	Middlesex . . .	6	—
Dorset . . .	25	1	Manchester . . .	85	40
Durham . . .	8	—	Plymouth . . .	193	123
Exeter . . .	42	57	Portsmouth . . .	126	413
Essex . . .	14	—	Preston . . .	4	7
Falmouth . . .	13	88	Pembroke . . .	7	—
Fareham . . .	13	—	Penzance . . .	12	—
Gloucester . . .	30	66	Oxfordshire . . .	6	—
Greenwich . . .	13	14	Ramsgate . . .	2	—

* Where the name of a county occurs, it indicates a number of small towns only furnishing one boy each.

OUR NAVAL RESERVES AND COAST VOLUNTEERS 41

Town	Number		Town	Number	
	Born	Entered		Born	Entered
Reading . .	2	4	Belfast . .	24	37
Rutlandshire . .	1	—	Chester . .	—	6
Salisbury . .	10	—	Cork . .	26	27
Sheffield . .	4	2	Queenstown . .	—	6
Shrewsbury . .	5	—	Dublin . .	22	21
Sheerness . .	9	59	Derby . .	—	8
Southampton . .	40	4	Edinburgh . .	42	34
Stafford . .	2	—	Glasgow and		
Shropshire . .	2	—	Greenock . .	44	90
Surrey . .	20	—	Harwich . .	—	8
Suffolk . .	23	—	Hastings . .	—	8
Staffordshire . .	12	—	Jersey . .	13	1
Taunton . .	14	29	Oxford . .	—	2
Totnes . .	7	—	Portland . .	—	70
Torquay . .	84	95	Queensferry . .	—	5
Teignmouth . .	20	—	Swansea . .	—	11
Uxbridge . .	2	—	Sunderland . .	—	1
Woolwich . .	38	587	Uxbridge . .	—	—
Weymouth . .	10	4	Wolverhampton . .	—	4
Worcester . .	24	—	York . .	—	1
Winchester . .	3	—	At sea . .	2	—
Warwick . .	9	—	Aberdeen . .	3	—
Worcestershire . .	3	—	Orkney Isles . .	1	—
Westmoreland . .	1	—	Ireland, North . .	39	—
Warwickshire . .	3	—	Ireland, South . .	12	—
Yeovil . .	7	—	Switzerland . .	1	—
Yorkshire . .	13	—	Australia . .	6	—
Hereford . .	11	30	Bermuda . .	1	—
Wiltshire . .	18	—	India . .	1	—
Sussex . .	17	—	Cape of Good		
Newcastle . .	3	—	Hope . .	2	—
Wales . .	5	—	West Indies . .	2	—
Scilly Isles . .	2	—	United States . .	4	—
Somersetshire . .	27	—	Turkey . .	1	—
Isle of Man . .	4	—	Corfu . .	1	—
Isle of Wight . .	19	—	At hospital and		
Bolton . .	—	3	absent from ship	43	—
Blackburn . .	—	4			
			Total . .	2,931	2,931

(Signed) W. GORE JONES, Captain,
and Inspector of Training Ships.

*Return showing Counties in which Boys in Training
Ships were born*

Her Majesty's Ship 'Impregnable,' Devonport, January, 1871

County	Towns	Number
Berkshire . . .	Reading	14
Buckinghamshire . . .	—	5
Bedfordshire . . .	—	4
Cheshire . . .	Birkenhead and Macclesfield . . .	24
Cambridgeshire . . .	—	6
Cornwall . . .	Penzance	104
Cumberland . . .	—	4
Durham . . .	—	8
Derbyshire . . .	—	—
Dorsetshire . . .	—	25
Devon, South . . .	Devonport, Plymouth, Exeter, Tot- nes, Torquay, Teignmouth . . .	699
Devon, North . . .	Bideford and Ilfracombe . . .	24
Essex . . .	—	14
Gloucestershire . . .	Bath, Bristol, Cheltenham, and Gloucester	98
Herefordshire . . .	Hereford	18
Hertfordshire . . .	—	7
Hampshire . . .	Gosport, Fareham, Portsmouth, Isle of Wight, Winchester, South- ampton	279
Kent . . .	Chatham, Deal, Dover, Deptford, Greenwich, Gravesend, Margate, Ramsgate, Sheerness, & Woolwich . . .	167
Lancashire . . .	Liverpool, Manchester, Preston, Isle of Man	112
Leicestershire . . .	—	7
Lincolnshire . . .	—	5
Middlesex . . .	London and Uxbridge	702
Nottinghamshire . . .	Nottingham	18
Norfolk . . .	Norwich	11
Northamptonshire . . .	Northampton	6
Northumberland . . .	Newcastle	7
Oxfordshire . . .	—	6
Rutlandshire . . .	—	1
Shropshire . . .	Shrewsbury	7
Staffordshire . . .	Stafford, Wolverhampton . . .	14
Suffolk . . .	—	23
Surrey . . .	—	20
Somersetshire . . .	Bridgwater, Yeovil	44
Sussex . . .	—	17
Warwickshire . . .	Coventry, Birmingham, & Warwick . . .	58
Worcestershire . . .	Worcester	27
Wiltshire . . .	Devizes, Salisbury	33
Yorkshire . . .	Sheffield, Leeds	25
Wales . . .	Cardiff, Merthyr Tydvil, & Pembroke . . .	18
Ireland . . .	—	123
Scotland . . .	—	90
Foreign . . .	—	19
*Total		2,888

(Signed) W GORE JONES, Captain,
and Inspector of Training Ships.

* Forty-three boys at hospital are not included.

*Return showing Previous Occupation of Boys in
Training Ships*

Her Majesty's Ship 'Impregnable,'
Devonport, January 1, 1871

Trade	Number				Remarks
	Sedentary Occupation		Active Occupation		
		Last Year		Last Year	
School	—	—	166	288	
Greenwich School	—	—	21	—	
Errand boys	—	—	518	613	
Farm labourers	—	—	332	352	
Mason labourers	—	—	561	464	
Factory boys	182	164	—	—	
Trades boys	281*	223*	281*	223*	
Sea	—	—	105	126	
Boating	—	—	67	13	
Servants (indoors)	91	56	—	—	
Grooms, &c.	—	—	44	34	
Gardeners, &c.	—	—	44	37	
Hawkers	—	—	16	7	
Blacksmiths	—	—	40	42	
Carpenters	—	—	82	101	
Ropemakers	—	—	6	—	
Miners	—	—	10	11	
Colliers	—	—	9	7	
Clerks	19	21	—	—	
Workhouse	—	—	6	—	
Sailmakers	3	—	—	—	Coopers, 3 last year
Totals	576	464	2,308†	2,318	

(Signed) W. GORE JONES, Captain,
and Inspector of Training Ships.

* It being found impossible to classify the trades with accuracy, the whole number of boys entered have been divided between the two classes.

† Four boys had no occupation. Forty-three were absent from ship at hospital.

44 OUR NAVAL RESERVES AND COAST VOLUNTEERS

*Return (prepared from the Reports of the Collectors of Customs)
in the Isle of Man, and Channel Islands, showing the Num-
31, 1869, and the Number of Men and Boys usually Em-*

PORT	NUMBER OF BOATS				TONNAGE				LENGTH of Tonnage					
									FIRST CLASS (Boats of 15 tons and upwards)					
	First Class	Second Class	Third Class	TOTAL	First Class	Second Class	Third Class	TOTAL	Of and under 20 feet	21 to 25	26 to 30	31 to 40	Above 40	
ENGLAND AND WALES:														
Aberystwyth . . .	2	6	3	11	88	40	6	84	—	—	—	—	—	—
Barnstaple . . .	—	44	47	91	—	115½	32½	148	—	—	—	—	—	—
Beaumaris . . .	2	13	94	109	85	—	110½	233½	—	—	—	—	—	—
Berwick . . .	52	630	4	686	1,181	4,410½	5	5,596½	—	—	—	—	—	—
Bideford . . .	7	88	11	106	125	61	—	186	—	—	—	—	—	—
Boston . . .	3	73	14	90	59	467	14	540	—	—	—	—	—	—
Bridgwater . . .	—	51	17	68	—	42	9½	51½	—	—	—	—	—	—
Bridport . . .	—	25	44	69	—	284	60	344	—	—	—	—	—	—
Bristol . . .	—	7	54	61	—	42	30½	81½	—	—	—	—	—	—
Carnarvon . . .	14	182	90	286	800½	468	109½	670½	—	—	—	—	—	—
Cardiff . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cardigan . . .	—	35	20	55	—	172½	50½	223½	—	—	—	—	—	—
Carlisle . . .	—	10	1	17	—	33	1	34	—	—	—	—	—	—
Castletown . . .	63	7	91	160	1,418	17	110½	1,546½	—	—	—	—	—	—
Chepstow . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chester . . .	—	48	—	48	—	146½	—	146½	—	—	—	—	—	—
Colchester . . .	143	251	42	436	2,888	2,019	68½	4,975½	—	—	—	—	—	—
Cowes . . .	7	112	108	327	301½	500½	118½	981	—	—	—	—	—	—
Dartmouth . . .	106	278	120	504	4,081	577½	164½	4,722½	—	—	—	—	—	—
Deal . . .	10	109	23	141	162	175½	19½	356½	—	—	—	—	—	—
Douglas . . .	142	68	161	371	2,797	256	126½	3,179½	—	—	—	—	—	—
Dover . . .	17	50	60	127	516½	19	—	535½	—	—	—	—	—	—
Exeter . . .	—	188	96	284	—	845½	120½	471½	—	—	—	—	—	—
Falmouth . . .	17	373	216	606	877½	1,040½	285	1,659	—	—	—	—	—	—
Faversham . . .	24	233	57	294	464½	1,562½	81½	2,068½	—	—	—	—	—	—
Fleetwood . . .	34	30	—	54	1,061½	85	—	1,146½	—	—	—	—	—	—
Folkestone . . .	6	90	56	152	101½	418½	87½	607½	—	—	—	—	—	—
Fowey . . .	17	352	172	541	262½	1,448	806½	3,011½	—	—	—	—	—	—
Gainsborough . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gloucester . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Goole . . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grimby . . .	219	30	28	262	10,001	162	19	10,182	—	—	—	—	—	—
Guernsey . . .	1	8	—	9	19	52	—	71	—	—	—	—	—	—
Hartlepool . . .	1	183	6	190	30	1,191	3½	1,224½	—	—	—	—	—	—

Customs)
he Num-
ally Em-

of Fishing Boats Registered at the several Ports in the United Kingdom, ber, Tonnage, and Class of Boats remaining on the Registers on December employed in them

LENGTH of Tonnage			KEEL of the BOATS whose is not given										NUMBER OF CREW USUALLY EMPLOYED										ORDINARY MODE OF FISHING
ST CLASS e of 15 tons upwards)			SECOND CLASS (Boats of less than 15 tons, navigated otherwise than by oars only					THIRD CLASS (Boats navigated by cars only)					MEN					BOYS					
25 to 30	31 to 40	Above 40	Of and under 15 feet	16 to 20	21 to 25	26 to 35	Above 35	Of and under 10 feet	11 to 15	16 to 20	21 to 30	Above 30	In First Class Boats	In Second Class Boats	In Third Class Boats	TOTAL	In First Class Boats	In Second Class Boats	In Third Class Boats	TOTAL			
—	—	—	—	—	—	—	—	—	—	—	—	—	4	17	9	80	2	4	8	9	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	6	92	66	158	—	14	7	21	" "		
—	—	—	—	—	—	—	—	—	—	—	—	—	842	2,519	10	2,871	1	100	—	100	Various.		
—	—	—	—	—	—	—	—	9	2	—	—	—	17	164	12	193	1	11	1	19	Trawling and hand lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	9	186	26	171	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	103	85	188	—	9	1	10	Trawling and lines. "		
—	—	—	—	—	—	—	—	—	1	6	—	—	—	64	143	197	—	—	2	2	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	56	411	289	706	—	4	—	4	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	198	104	302	—	17	10	27	Trawling and line.		
—	—	—	—	—	—	—	—	—	—	—	—	—	454	82	2	84	—	—	—	—	Nets.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	256	720	68	2	15	85	Trawling, lines, and lobster baskets.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	51	—	51	—	9	—	9	Dredging and trawling.		
—	—	—	—	—	—	—	—	—	—	—	—	—	567	610	68	1,165	248	190	13	457	Various.		
—	—	—	—	—	—	—	—	—	—	—	—	—	44	413	208	665	1	29	13	58	Trawling, lines, and crabbing.		
—	—	—	—	—	—	—	1	—	—	—	—	—	534	568	361	1,253	124	8	14	146	Lines and nets.		
—	—	—	—	—	—	—	—	—	—	—	—	—	66	811	67	444	11	54	4	69	Nets and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	920	216	228	1,359	149	18	60	266	Dredging, lines, and nets.		
—	—	—	—	—	—	—	—	—	—	—	—	—	84	148	137	344	24	4	28	—	Various.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	434	186	610	—	14	6	30	Dredging, trawling, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	827	480	1,319	1	118	29	148	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	87	609	50	746	8	21	5	29	Trawling and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	137	38	—	175	28	1	—	Hooking, trawling, and crabbing.		
—	—	—	—	—	—	—	—	—	—	—	—	—	94	268	158	450	1	30	4	25	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	79	1,068	420	1,557	7	121	40	168	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Trawling, dredging, and lines.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						

46 OUR NAVAL RESERVES AND COAST VOLUNTEERS

Register of

PORT	NUMBER OF BOATS				TONNAGE				LENGTH of Tonnage				
	First Class	Second Class	Third Class	TOTAL	First Class	Second Class	Third Class	TOTAL	FIRST CLASS (Boats of 15 tons and upwards)				
									Of and under 20 feet	21 to 25	26 to 30	31 to 40	Above 40
England and Wales—continued													
Harwich	17	72	50	139	525½	652½	55½	1,233½	—	—	—	—	—
Hayle	82	112	65	200	517	989	123	1,629	—	—	—	—	—
Hull	246	841	2	888	12,060	927½	2	12,987½	—	—	—	—	—
Ipswich	7	87	—	44	200	259	—	459	—	—	—	—	—
Jersey	86	4	—	90	2,219	44	—	2,263	—	—	—	—	—
Lancaster	6	106	120	231	232½	302	129	663½	—	—	—	—	—
Littlehampton	2	152	85	139	87	317½	84½	889½	—	—	—	—	—
Liverpool	39	140	10	189	1,315	464	9½	1,788½	—	—	—	—	—
Llanelli	1	—	—	1	19	—	—	19	—	—	—	—	—
London	152	47	—	199	7,642	215	—	7,857	—	—	—	—	—
Lowestoft	180	262	24	466	4,515	174	—	4,689	—	—	—	—	—
Lyme	—	89	100	189	—	137½	156½	314½	—	—	—	—	—
Lynn	13	97	—	110	231	610	—	841	—	—	—	—	—
Maldon	16	247	193	456	813½	1,601½	411	2,525½	—	—	—	—	—
Maryport	1	17	6	24	25	74	7	106	—	—	—	—	—
Middlesbrough	—	59	—	59	—	94½	—	94½	—	—	—	—	—
Milford	16	102	107	225	841	446	68½	867½	—	—	—	—	—
Newcastle	—	—	—	—	—	—	—	—	—	—	—	—	—
Newhaven	8	56	91	155	137	252½	98	487½	—	—	—	—	—
Newport	—	—	—	—	—	—	—	—	—	—	—	—	—
Padstow	—	76	45	121	—	134	202½	338½	—	—	—	—	—
Penzance	22	477	51	550	411½	—	—	411½	—	—	—	—	—
Plymouth	58	267	80	355	1,864	996½	40½	2,927	—	—	—	—	—
Poole	—	57	12	69	—	5	—	5	—	—	—	—	—
Portsmouth	24	344	48	416	583½	592½	68	1,189	—	—	—	—	—
Preston	2	48	—	50	75	123	—	201	—	—	—	—	—
Ramsey	5	42	20	67	116	188	80	364	—	—	—	—	—
Ramsgate	149	49	—	198	5,339	802½	—	5,541½	—	—	—	—	—
Rochester	11	138	8	147	237	716½	8½	946½	—	—	—	—	—
Runcorn	1	19	10	30	1	91	8	114	—	—	—	—	—
Rye	24	79	38	141	544	509½	52	1,105½	—	—	—	—	—
Scarborough	111	240	11	362	4,186	—	—	4,186	—	—	—	—	—
Selly	—	—	—	—	—	—	—	—	—	—	—	—	—
Shields	6	545	47	598	109½	1,813	82	1,954½	—	—	—	—	—
Shields, South	—	102	15	117	—	198½	19	212½	—	—	—	—	—
Shoreham	13	136	79	295	864½	871	82½	1,818½	—	—	—	—	—
Southampton	20	184	139	343	470½	303	16½	789½	—	—	—	—	—
Stockton	—	—	—	—	—	—	—	—	—	—	—	—	—
Sunderland	6	89	—	95	105½	867½	—	968	—	—	—	—	—
Swansea	6	154	—	160	118	1,426	—	1,544	—	—	—	—	—
Teignmouth	2	121	190	313	89	621½	218½	774½	—	—	—	—	—
Truro	—	20	106	126	—	204	126½	330½	—	—	—	—	—
Wells	14	64	8	81	805	846½	8	864½	—	—	—	—	—
Weymouth	4	186	291	481	106	336½	377½	720	—	—	—	—	—
Whitby	20	201	43	264	708½	721½	84½	1,464	—	—	—	—	—

Register of

Fishing Boats—continued

LENGTH of Tonnage			KEEL of the BOATS whose is not given.										NUMBER OF CREW USUALLY EMPLOYED										ORDINARY MODE OF FISHING																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
T CLASS of 15 tons upwards)			SECOND CLASS (Boats of less than 16 tons, navigated otherwise than by oars only)					THIRD CLASS (Boats navigated by oars only)					MEN					BOYS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
25 to 30	31 to 40	Above 40	Of and under 15 feet	16 to 20	21 to 25	26 to 35	Above 35	Of and under 10 feet	11 to 15	16 to 20	21 to 30	Above 30	In First Class Boats	In Second Class Boats	In Third Class Boats	TOTAL	In First Class Boats	In Second Class Boats	In Third Class Boats	TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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48 OUR NAVAL RESERVES AND COAST VOLUNTEERS

Register of

PORT	NUMBER OF BOATS				TONNAGE				FIRST CLASS (Boats of 15 tons and upwards)					
	First Class	Second Class	Third Class	TOTAL	First Class	Second Class	Third Class	TOTAL	Of and under 20 feet	21 to 25	26 to 30	31 to 40	Above 40	
England and Wales—continued														
Whitehaven	12	7	—	19	248½	74	—	322½	—	—	—	—	—	
Wishbeach	—	22	—	22	—	98½	—	98½	—	—	—	—	—	
Woodbridge	17	121	26	164	524	228½	21	773½	—	—	—	—	—	
Workington	—	—	—	—	—	—	—	—	—	—	—	—	—	
Yarmouth	485	415	60	900	14,025	726	87	14,788	—	—	—	—	—	
Total	2,679	9,908	8,608	16,195	86,946	35,869½	8,307½	127,012½	—	—	—	—	—	
SCOTLAND:														
Aberdeen	9	461	88	508	189	1,810½	16	1,965½	—	—	—	—	—	
Alloa	1	—	—	1	17	—	—	17	—	—	—	—	—	
Arbroath	8	148	5	151	50½	659½	4½	714½	—	—	—	—	—	
Ardrossan	6	148	2	156	91	654	4	749	—	—	—	—	—	
Ayr	—	145	20	165	—	389½	12½	353	—	—	—	—	—	
Banff	500	727	40	1,267	7,668	4,400½	42	12,010½	—	—	—	—	—	
Borrowstoness	—	46	—	46	—	173½	—	173½	—	—	—	—	—	
Campbeltown	42	210	4	256	814	724½	4	1,542½	—	—	—	—	—	
Dumfries	—	74	3	77	—	178	8	181	—	—	—	—	—	
Dundee	40	154	81	225	677	492½	44½	1,214½	—	—	—	—	—	
Glasgow	9	89	23	71	185	104½	37	270½	—	—	—	—	—	
Grangemouth	—	—	—	—	—	—	—	—	—	—	—	—	—	
Granton	—	—	—	—	—	—	—	—	—	—	—	—	—	
Greenock	24	1,651	489	2,114	447	5,508½	528	6,478½	—	—	—	—	—	
Inverness	100	1,986	326	2,362	1,511	9,478	488½	11,472½	—	—	—	—	—	
Kirkcaldy	97	671	27	795	1,567	4,606½	19	6,182½	—	—	—	—	—	
Kirkwall	45	1,518	279	1,842	747	4,408½	244½	5,896½	—	—	—	—	—	
Leith	112	496	2	550	1,853½	2,572½	2	4,525½	—	—	—	—	—	
Lerwick	68	1,724	910	2,887	2,167½	—	—	2,167½	—	—	—	—	—	
Montrose	86	251	18	312	651½	1,249½	14½	1,916½	—	—	—	—	—	
Perth	—	—	—	—	—	—	—	—	—	—	—	—	—	
Peterhead	462	281	346	1,089	7,627	1,221½	1,816	10,164½	—	—	—	—	—	
Port Glasgow	—	76	15	90	—	118	17½	180½	—	—	—	—	—	
Stornoway	2	1,064	158	1,289	80	5,377	23½	5,586½	—	—	—	—	—	
Stranraer	3	165	6	174	62	394½	—	394½	—	—	—	—	—	
Troon	2	61	15	78	42	219	8½	269½	—	—	—	—	—	
Wick	264	1,825	56	1,645	8,965	8,642½	101	12,928½	—	—	—	—	—	
Wigtown	1	81	72	104	17	189½	74½	261½	—	—	—	—	—	
TOTAL SCOTLAND	1,881	13,318	2,825	17,999	80,379½	58,518½	9,307½	87,000½	—	—	—	—	—	
IRELAND:														
Bellina	—	2	138	156	—	11½	285	246½	—	—	—	—	—	
Belfast	81	370	162	568	616	294½	151	1,490½	—	—	—	—	—	
Coleraine	—	136	98	231	—	191½	88	280½	—	—	—	—	—	
Cork	50	801	584	685	1,829½	968½	679½	2,962½	—	—	—	—	—	
Drogheda	2	48	5	50	40	77	5	122	—	—	—	—	—	
Dublin	167	81	106	604	4,061	2,588	207	6,891	—	—	—	—	—	
Dundalk	—	848	4	47	—	62½	4½	68½	—	—	—	—	—	
Galway	7	507	671	1,185	222	2,024½	969½	3,216½	—	—	—	—	—	

Fishing Boats—continued

NAME of the BOATS whose
names given

SECOND CLASS	THIRD CLASS
(Boats of less than 10 tons, navigated otherwise than by oars only)	(Boats navigated by oars only)

MEN

BOYS

ORDINARY MODE OF FISHING

OF and under 10 feet		16 to 20	21 to 25	26 to 35	Above 35	OF and under 10 feet	11 to 15	16 to 20	21 to 30	Above 30	In First Class Boats	In Second Class Boats	In Third Class Boats	TOTAL	In First Class Boats	In Second Class Boats	In Third Class Boats	TOTAL	
57	79	201	139	83	222	50	14	5	13,106	26,112	8,012	47,290	3,826	2,949	692	7,467			Trawling and dredging.
																			"
																			Trawling.
																			Nets and lines.
44	15	1									44	1,800	75	1,949	1	108	5	109	Lines, nets, and crab pots.
																			Nets and lines.
																			Lines, nets, and creels.
																			Drift and trawl nets and lines.
																			Nets and lines.
																			Various.
																			"
																			Nets and lines.
																			Various.
																			Trawling and drifting.
																			"
																			Various.
																			Nets and lines.
																			Nets and lines, crab and lobster dredging.
																			Various.
																			"
																			White and herring.
																			Nets and lines.
																			Trawling.
																			Lines, nets, and creels.
																			Dredging nets and lines.
																			Nets and lines.
																			Various.
133	492	705	255	665	477	184	2,820	10	133	492	705	255	665	477	184	2,820	10	133	Lines, nets, and pots.
5,537	7,145	2,699	4,530	1,728	5,547	1,045	1,168	309	5,537	7,145	2,699	4,530	1,728	5,547	1,045	1,168	309	5,537	Nets, lines, and pots.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
6,700	8,458	3,446	5,878	2,868	7,709	1,574	4,873	249	6,700	8,458	3,446	5,878	2,868	7,709	1,574	4,873	249	6,700	Nets, lines, and creels.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Dredging nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and pots.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and creels.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Dredging nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and pots.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and creels.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Dredging nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and pots.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and creels.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Dredging nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and pots.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and creels.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Dredging nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and pots.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and creels.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Dredging nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and pots.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and creels.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Dredging nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and pots.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and creels.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Dredging nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Various.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets and lines.
1,081	821	42	508	5	1,745	45	885	40	1,081	821	42	508	5	1,745	45	885	40	1,081	Nets, lines, and pots.
1,081	821	42	508	5	1,745	45	885	40											

50 OUR NAVAL RESERVES AND COAST VOLUNTEERS

Return of

PORTS	NUMBER OF BOATS				TONNAGE				LENGTH of Tonnage					
									FIRST CLASS (Boats of 15 tons and upwards)					
	First Class	Second Class	Third Class	TOTAL	First Class	Second Class	Third Class	TOTAL	Of and under 30 feet	31 to 35	36 to 40	41 to 45	Above 45	
Ireland—continued														
Limerick	1	22	200	222	20	62	200½	287½	—	—	—	—	—	—
Londonderry	4	365	147	516	62	798	139	994	—	—	—	—	—	—
Newry	13	202	164	369	349	419	198½	966½	—	—	—	—	—	—
Ross	1	70	23	94	59	252½	62	348½	—	—	—	—	—	—
Shibbereen	11	224	760	1,104	270½	860	1,484	2,584½	—	—	—	—	—	—
Sligo	1	400	526	927	30	819½	853½	1,798½	—	—	—	—	—	—
Tralee	18	153	483	654	496	429½	664½	1,592	—	—	—	—	—	—
Waterford	15	183	40	238	851	816½	60	1,727½	—	—	—	—	—	—
Westport	—	87	782	789	—	804	944½	1,748½	—	—	—	—	—	—
Wexford	22	206	48	276	482	850½	101½	1,884½	—	—	—	—	—	—
Youghal	3	50	41	94	53	189	106	300	—	—	—	—	—	—
TOTAL IRELAND.	346	3,790	4,670	8,796	8,388	12,542½	7,289½	28,166	—	—	—	—	—	—
TOTAL UNITED KINGDOM.	4,866	27,001	11,103	42,969	125,606½	101,916	14,654½	242,179	—	—	—	—	—	—

Return of

Fishing Boats—continued

LENGTH of Tonnage	LENGTH of the BOATS whose not given										NUMBER OF CREW USUALLY EMPLOYED								ORDINARY MODE OF FISHING
	SECOND CLASS (Boats of less than 15 tons, navigated otherwise than by oars only)					THIRD CLASS (Boats navigated by oars only)					MEN				BOYS				
	15 feet	16 to 20	21 to 25	26 to 35	Above 35	Of and under 10 feet	11 to 15	16 to 20	21 to 30	Above 30	In First Class Boats	In Second Class Boats	In Third Class Boats	TOTAL	In First Class Boats	In Second Class Boats	In Third Class Boats	TOTAL	
T CLASS of 15 tons upwards)	26 to 30	31 to 40	Above 40																

J. J. MAYO,
Registrar-General.

II

OUR RESERVES OF SEAMEN

PAMPHLET PUBLISHED IN 1872

Importance
of a strong
reserve

OF the importance to the British Empire of a good reserve of seamen there cannot be a doubt, nor is the consideration of the subject the less opportune because we are, happily, at peace with all the world. Naval organisation is of necessity a work of time and forethought. The hasty measures adopted in an emergency will be at once more costly and less complete than the more deliberate and fully-considered preparations made in quieter times.

Need of
organisa-
tion.

Admitting that the policy of a statesman should be to regard the resources which are furnished to his hand by a thriving and busy commerce as the true naval defence of his country, it would be vain to rely upon those resources as available for national defence without careful organisation in peace. The following passage occurs in a letter received last year from Commodore Rogers, of the United States Navy: 'There is nothing in naval matters so important as the subject of manning the Navy. Fleets may easily be built, hosts of swift steamers may be quickly taken from commerce and converted into tolerably efficient cruisers, but an efficient man-of-war's man cannot be improvised. Such hosts

of oak are of slow growth, and need much care. It is unsafe to look back to former days for anything to guide us in the future. Naval warfare in the olden time was rude and simple. The guns and the gun practice, the whole training of our seamen, and the whole machinery of battle were very different from what we see to-day. All nations were much alike, and glorious deeds were done by the rough system then in vogue, when the skilful handling of a ship was the one thing needful. Steam, new ordnance, armour, torpedoes, landworks, obstructed channels, all complicate the naval problem now. We need thorough seamen as of old, but they must be sea soldiers also.'

As one of the representatives in Parliament of an ancient Cinque Port, I am reminded of the illustrious efforts of our commercial marine in the destruction of the Spanish Armada. Compared with the Navies of modern days, the scale of our operations in those distant times may appear insignificant. All our sailors in the reign of Elizabeth amounted to about 14,000 men, and there were not more than four vessels belonging to the merchants which exceeded 400 tons; but it still remains a memorable fact that a Navy whose splendid achievements fill one of the brightest pages of our history was mainly composed of vessels equipped by the commercial towns and the nobility and gentry of England. Of the 140 ships assembled to oppose the Spanish Armada only 28, according to Hume, belonged to the Royal Navy. Those renowned seamen, Drake, Hawkins, and Frobisher, who commanded the fleet under Lord Howard, were masters in the merchant Navy. The instruments of naval war may be changed. Who shall venture to say that their ancient spirit has ceased to animate the English people? In a crisis of equal

The Armada
overthrown
by a fleet
equipped
by the
mercantile
marine

gravity the same patriotism would be displayed, the same success would be achieved.

Historical
experience
proves de-
pendence of
naval power
on the com-
mercial
marine

The interdependence of the fighting and mercantile marine has not always been sufficiently recognised by our naval administrators. Yet the teachings of history prove that it is impossible to create a powerful Navy without the support of a flourishing commerce. In the great war Napoleon possessed a fleet of 80 line-of-battle ships, a force quite sufficient to have enabled him to contend with England for the mastery of the seas. All his naval operations failed, because unsupported by a vigorous merchant service. So again successive rulers of the Russian empire have made great efforts to create a powerful Navy. Under Peter the Great, Catharine II., and the Emperor Nicholas, the utmost pains were bestowed on the Russian fleet. The Crimean war revealed how fruitless their efforts had been. The United States has never maintained a large standing Navy; and yet is justly reckoned amongst the most considerable of the maritime Powers.

Superiority
of England

If the progress of the mercantile marine be, as assuredly it is, an essential element of naval power, England has no reason to be alarmed. Perhaps no more striking proof of the superiority of this country could be found than the fact that of the total tonnage, amounting to 771,409 tons, which passed through the Suez Canal in 1871, 546,421 tons were English shipping. Comparing the tonnage of the sea-going steamers of the principal maritime countries in 1871, we find that Great Britain possessed 1,411,000 tons, the United States 213,000 tons, and France 143,000 tons.

Impres-
sment im-
possible

In this country the spirit of liberty, which happily pervades all our political institutions, makes it impossible to rely any longer on compulsion as a means of

recruiting for the Navy. Since the great war we have had two Reform Bills, and it is certain that the operations of the press-gang, which sixty years ago was most unpopular, would now be impracticable. The loss of the former legal power to compel seamen to serve in the fleet is not, even from a naval point of view, a subject for regret.

The composition of the crews of the ships which won our great naval victories was unsatisfactory in the extreme. In a paper read by Captain Gardner at the Royal United Service Institution in May 1871, their inefficiency is minutely criticised. In 1803 the line-of-battle ships 'Donegal' and 'Belleisle' went out to the Mediterranean with not more than twenty men in each ship who could take the wheel. After Trafalgar the 'Conqueror' had just eight men on board who could knot a shroud. Had the seamanship of the crews of the French and Spanish ships been as remarkable as the personal courage they displayed, it would have been difficult even for the admirable commanders which the English Navy then possessed to have achieved such distinguished success. In the present day we should no longer find our rivals on the sea equally unprepared for naval war.

The most experienced shipowners and merchant captains of France were examined before the Committee of Inquiry on the French Merchant Service, which sat under the presidency of M. Rouher in 1862. According to their unanimous testimony the conscription was the principal cause of the stagnation in the maritime development of their country. Cases were cited of gentlemen holding degrees from the University of France, who had gone to sea comparatively late in life and reached the rank of chief officers in large steamers,

The French
maritime
conscription

Cruising

who had been compelled to serve in the Navy for three years as ordinary seamen. The obligation to serve in the Navy in France commences at the age of twenty and continues to the age of fifty. The dislike to this liability deters a large number from going to sea. On the other hand, it is but fair to acknowledge that the same aversion does not extend to the humbler grades of the seafaring population. When recently cruising on the western coasts of France, I had opportunities of ascertaining the views of many French seamen and pilots, and I was assured that the maritime conscription was not unpopular. It must, however, be observed that in all cases my informants had already performed their service in the French Navy, and were looking forward to the early enjoyment of the pension to which, at the age of fifty, they would be entitled. The conscription probably assumes a different aspect, according as the seaman has or has not performed his term of service in the Navy.

The
necessary
naval force
not an
invariable
number

In urging a renewed effort to improve and increase our Reserves it is not assumed that the standard at which the Navy should be maintained is an absolute and not a relative quantity. The reductions which have taken place in the Navies of France and the United States have undoubtedly tended to establish, for the time being, the relative superiority of England. We do not make sufficient use of our advantages, either in the consolidation of our power or the reduction of our expenditure. If we made a more systematic effort to develop our Reserves, it might become possible to diminish, to a very considerable extent, the personnel of our standing Navy in time of peace.

While admitting, however, that we are not bound to maintain our forces at the standard of strength thought

necessary at a former time, we must refer to the report of the Royal Commission of 1859, as embodying the results of the most recent inquiry. The commissioners recommended that the Coast Guard should be maintained at a strength of 12,000, and the Royal Naval Reserve at 20,000 men. The actual numbers are—Coast Guard 4,300, Royal Naval Reserve 15,000 men. The present Reserves of the Navy are, therefore, much below the standard proposed by the Royal Commission ; and, notwithstanding the changes which have taken place in the political condition and naval policy of other nations, it is to be regretted that our Naval Reserves are so considerably reduced. In the following pages an attempt will be made to ascertain the causes of the diminution of numbers, and to suggest a means of recruiting which, it is hoped, may prove more successful than our existing system in sustaining the numerical strength. No allusion shall be made to the Coast Guard ; because, being a strictly naval force, it lies beyond the present inquiry, which is entirely confined to the organisation of a Naval Reserve in the merchant service. Moreover, the Coast Guard, though undoubtedly the best, is necessarily a very expensive force.

The
Manning
Commission
of 1859

Coast
Guard

There is much in our recent experience to encourage the Admiralty to make further efforts to improve the Reserve. The existing force has furnished a link, which had before been wanting, between the Navy and the mercantile marine. A considerable proportion of the whole number of eligible seamen have enrolled themselves in the Reserve. This number might be considerably augmented if some unnecessary restrictions were abolished, which now prevent eligible men from joining, or compel them to leave the force. The Naval Reserve, even with its present imperfect organisation, is

The Naval
Reserve a
valuable
force

an invaluable addition to our resources. It has been estimated by a writer in the 'Quarterly Review' that 5,000 seamen from the Reserve would join the fleet on the first outbreak of hostilities, and that for the next six months about 1,000 men per month would come forward. The remainder would probably join before a year had expired. If we may venture to rely on this calculation, we must congratulate ourselves on the success which has already attended the formation of the Royal Naval Reserve.

Testimony
of naval
officers

In point of efficiency the Reserve has fully answered all reasonable expectations, and has been highly commended by a long succession of distinguished naval men who, as inspecting officers, have had the best opportunities of becoming acquainted with the force. The list of these officers includes, among others, Captain Gardner, Admirals Ryder, Cooper Key, Warren, and Elliott, all of whom have spoken in terms of commendation of the Royal Naval Reserve, and have fully recognised its value to the Navy.

Efficiency
increased by
differential
rates of pay

Complaints have been made, though in rare instances, of an imperfect knowledge of drill. This may be attributed in part to the obsolete nature of the guns at which the Reserve has been drilled. A few 6½-ton guns have lately been issued to the drill ships. The greater number of the guns are old 32-pounders, a nature of gun which is almost entirely obsolete in naval warfare. Steps have not been taken by the offer of pecuniary advantages to stimulate the seamen of the Reserve to perfect themselves in their drills. The enforcement of the severer punishments known to martial law might not be desirable. It would be easy to give pecuniary inducements to seamen to become proficient in their drills. At present the Royal Naval Reserve

are paid at a uniform rate, irrespectively of conduct and qualifications. The retainer should be fixed at a minimum of 5*l.* for newly enrolled men. It should be increased in various amounts up to a maximum of 7*l.*, as a bonus for superior efficiency, good conduct, and regular attendance.

Some eligible men still refuse to join the Reserve, alleging that the pay is insufficient. The terms already offered are so liberal that no increase, except as a reward for a higher degree of efficiency, could reasonably be proposed. A seaman of the Reserve now receives 10*l.* 10*s.* a year for twenty-eight days' drill and for taking upon himself the obligation to serve in the Navy in the event of a war. Compared with the man-of-war's man his position is so favourable that no alteration can be made without manifest injustice to the Royal Navy.

If pains be taken, by means of pecuniary rewards, and in other ways, to encourage the seamen of the Reserve to learn their duty, and if the incompetent and careless are rejected, there need be no anxiety as to the general efficiency of the Reserve. The real point of difficulty lies in the recruitment for the force. Its strength has been gradually diminishing. The unnecessary stringency of some of the regulations relating to the entry of seamen and their attendance at drill has caused many seamen to withdraw from the Reserve and prevented many candidates from being enrolled who were capable of rendering valuable service.

A seaman cannot be enrolled in the Naval Reserve after he has passed the age of thirty. The limit of age ought to be fixed at thirty-five. The Appendix to the Report of the Joint Committee, appointed by the Admiralty and the Board of Trade to revise the regulations for the Royal Naval Reserve, contains a state-

Difficulty in
recruiting
for Naval
Reserve

Rules as to
age

ment showing the ages of the seamen in the Reserve in the year 1869 :

Age	Number
20 to 25	3,783
26 to 30	6,336
31 to 35	3,642
36 to 40	1,624
Above 40	677
	<hr/> 16,062

From an examination of these figures it may fairly be argued that, whatever limit of age may be fixed for enrolment, the Reserve will be mainly composed of the younger seamen of the merchant Navy.

Service
at sea

The rule as to five years' service at sea ought not to be absolutely enforced in all cases. A candidate for the Reserve, if found on examination to be thoroughly qualified, should not be rejected because his service at sea is a week or a month less than the prescribed period. An inflexible rule may prevent candidates from joining the force who are on the point of sailing on a long voyage, and who are not disposed to leave a favourite ship. A discretion should be allowed to shipping masters to enrol seamen, upon receiving a certificate from the commanding officer of a drill ship that he is satisfied with the qualifications of the candidates.

The regulations, under which men are compelled to withdraw from the Reserve unless they continue at sea shuts out a large number of valuable men who are thorough seamen, and are employed about the docks, or as riggers or bargemen. Many of the seamen thus excluded are still in the habit of making short voyages in ships proceeding from port to port on our own coasts. It would be a scandal that there should be any men in the Reserve who were not *bonâ fide* seamen. In order

to exclude unfit persons, it is not necessary to frame rules so stringent as to keep out others as to whose efficiency there can be no reasonable doubt.

As in the regulations for the entry of seamen, so in the rules as to drill, there are many needless and inconvenient restrictions. A seaman is sometimes compelled to leave a good employ, and to give up a valuable berth as a petty officer, because the ship to which he belongs is ordered to sail a day or two before he has completed the specified period of twenty-eight days' drill. In such a case, if a man be efficient he should be excused a fractional portion of his drill and allowed to make it good at a future time. No objection can be raised to the general policy of encouraging the seamen of the Reserve to undergo their twenty-eight days' drill in one continuous period, rather than at broken intervals. A power of granting exemptions should be given to the officers in charge of the Reserve.

Rules as
to drill

The Circular of January 13, 1870, requiring that every candidate for the Reserve should be examined by an officer not below the rank of a commander in the Royal Navy, has caused considerable inconvenience. Men are sometimes detained several days in consequence of the absence of the commander of the drill ship. Permission should be given to lieutenants of the Royal Navy, of a certain standing, and to the gunners of the drill ships, to pass candidates who desire to be enrolled in the Reserve.

Rules as to
enrolment

Disappointment has been expressed at the utter failure of the scheme for the formation of a second-class Naval Reserve. Much dissatisfaction has been expressed at the regulation compelling the second-class Reserve to reside on board the coast-guard ships during the period of annual training. It is not easy to

Rules as to
second-class
Reserve

discover the reason why the privilege of living on shore, when undergoing their annual drill, should be accorded to the first-class and withheld from the second-class Reserve. The rule which compels the men in the second-class Reserve to go through their drills on board the coast-guard ship causes much unnecessary inconvenience. A man residing in London, instead of being drilled on board the 'President,' like the senior division of the Reserve, would be compelled to go down to Harwich to drill on board the 'Penelope.' This regulation would compel the majority of the men in the second-class Reserve to be separated from their friends and families during the whole period of their annual training. There is real hardship in such a separation in the case of young seamen desiring to go through their drills in the short interval which they would have to spend in England between two extended foreign voyages. Both classes of the Naval Reserve should be allowed to drill on board the drill ships of the Reserve, as well as on board the coast-guard ships.

The regulations as to the age of entry for the second-class Reserve are too stringent. Instead of limiting the age of admission to from eighteen to twenty, it should be from seventeen to twenty-five. The Committee of 1852 on the Manning of the Navy recommended that the age of admission for Naval Coast Volunteers should extend from eighteen to twenty-five. In many cases the age of seventeen is not too young; and if a candidate is otherwise eligible, it is absurd that he should be prevented from joining the Reserve if more than twenty years of age.

By modifying rules
Reserve
increased

It will be observed that none of the modifications which have been proposed involve the surrender of any important guarantee for discipline or efficiency. Small

concessions will remove objections strongly felt. It is the opinion of persons intimately acquainted with the habits and feelings of sailors that if the rules were relaxed in the several particulars which have been enumerated, the strength of the Royal Naval Reserve would be rapidly increased.

It is, however, alleged that the difficulty of recruiting for the Royal Naval Reserve arises from other causes. The increase of steam vessels and the decrease of sailing ships, the abolition of compulsory apprenticeship in the merchant service, and the failure to create any other plan for systematically training boys in seamanship, are difficulties of a more serious character.

The development of steam in the mercantile navy has had an important influence on the employment of seamen. The opening of the Suez Canal, and the economy in the consumption of fuel which has resulted from the introduction of the compound engine, have caused a rapid substitution of steam for sailing vessels. In 1864 the total tonnage of our shipping was 7,103,000 tons; the total in 1871 was 7,142,000 tons. But while in the former period the steam tonnage was 770,000 tons, it had increased to 1,412,000 tons in the latter period. The development of steam shipping has, from various causes, recently undergone a check. Sailing vessels will still be employed, especially on long voyages, as auxiliaries to steamers, for the conveyance of the heavier and less valuable goods. In sailing ships fewer men are now employed in proportion to the tonnage than formerly. The introduction of iron as a general material for shipbuilding has led to the construction of ships of larger dimensions, of greater length in proportion to their breadth, and with a smaller area of canvas in proportion to their tonnage. In our sailing ships of all

Increase of
steamers
and abolition
of compulsory
apprenticeship

classes the proportion of men to one hundred tons was, in 1854, 4·17 ; in 1869 and 1870, 3·25 in both years. The numbers of British and foreign seamen serving in the registered sailing and steam vessels of the United Kingdom employed in the home and foreign trade, was in 1864, British seamen, 173,833 ; foreign seamen, 21,923—total, 195,756 men. In 1870, British seamen, 177,951 ; foreign seamen, 18,011—total, 195,962 men.

Wages in
sailing
lower than
in steam
vessels

Notwithstanding the reduction in the crews, considerable difficulty is sometimes experienced in procuring well-trained seamen. The shipowners themselves have the remedy in their own hands. No difficulty whatever is experienced in procuring men for steam vessels. The wages of seamen in steamers have been raised to such a point as to attract the best seamen from sailing ships. The wages are as six in steamers to five in sailing ships.

Foreign
seamen

If, again, it be urged that foreigners are being introduced into our merchant service in such numbers that British sailors must ultimately disappear, the most recently published statistics give no foundation for these apprehensions. The number of foreigners in British ships in 1864 was, as we have seen, 21,923, and in 1870, 18,011. The proportion of foreigners to the total number of seamen employed under our flag was in the former year 12·6, and in the latter year 10·1.

Alleged
deteriora-
tion of
seamen

The alarm which has been raised at the prospect of a falling off in the supply of seamen has probably been exaggerated. It is true that there has been a great falling off in the numbers apprenticed and enrolled since the system of compulsory apprenticeship was abolished. The number enrolled in 1845 was 15,704 ; in 1846, 10,376 ; in 1856, 7,410 ; in 1866, 5,454 ; and in 1871, 4,111. There are a large number of boys afloat, not regularly apprenticed to shipowners, who are coming

forward as the future seamen of the mercantile marine. Their training may not be systematic, but where they are fortunate enough to be under the care of a captain who is anxious for their welfare, and are associated with seamen who take a pleasure in instructing them in their art (and many such captains and many such seamen are to be found), the boys are learning their business quite as effectually as if they had been regularly apprenticed to the sea. Owing to the abolition of compulsory apprenticeship few boys are now apprenticed to shipowners, who are not intended to become officers in the merchant service. The greater number of the able seamen of the mercantile marine have been reared without passing through a regular apprenticeship; yet it is impossible to prove any deterioration in our seamen, either in character, in skill, or in physical power. Our sailing ships make quicker passages, and are manned by fewer hands than were considered necessary in former days. The proportion of men to one hundred tons in sailing ships employed in the foreign trade was, in 1854, 3·97; in 1869, 2·83; and in 1870, 2·79. The difference is even greater in steam vessels, in which the average proportion of men to one hundred tons in the foreign trade was, in 1854, 7·69; in 1869, 4·68; and in 1870, 4·35. It would be interesting to know what proof could be adduced to show that the seamen, who are able to do more work, are inferior either in strength or in skill to their predecessors.

A seaman, constantly employed in a jury-rigged steamer, after a certain interval must necessarily lose his skill in the handling of canvas. Where he is constantly employed in sailing ships there is no reason to suppose that he is inferior to the mariner of the olden time. There is a tendency to extol the men and things

of the past, and to disparage the capabilities of our own generation. Such comparisons are of little value, unless supported by some proof more tangible than mere assertion.

Crews of
yachts not
deteriorated

To take an illustration familiar to the present writer, let comparison be made between the skill and seamanship of the crews of our large and increasing pleasure fleet with the performances of years gone by. The large and magnificent racing schooners which now crowd the anchorage of every favourite resort of our yachtsmen are the creation of recent years. By the science of our shipbuilders and sailmakers, acting under the direction of a few clever yachtsmen, and by the admirable seamanship of the numerous fishermen whom they employ, the arts both of building and manœuvring schooners have made a rapid and remarkable advance. Formerly it was a rare, now it is a common achievement for a schooner to compete with success against a cutter. Year by year larger yachts are being built, with spars more ponderous, and with greater amplitude of canvas. No difficulty whatever is experienced in finding competent masters and fine crews for these vessels. It may be presumed from these facts that, in the more serious and important departments of the mercantile marine, a seaman, placed in the same condition as his predecessors, is not inferior either in discipline or in skill.

A strong
Reserve
would
justify
reduced
naval esti-
mates

Additional means of training seamen are therefore to be recommended, not for the purpose of assisting shipowners, nor yet because we are overwhelmed by foreigners; but because a numerous and efficient Reserve would add greatly to the power of this country in war, and justify a considerable reduction of expenditure on our standing Navy during peace.

The system of training in the Navy itself is most

excellent, and surpasses in its results anything hitherto achieved by the efforts of philanthropic societies, which have established training ships at our commercial ports. The boys on board the training ships of the Royal Navy have immense advantages in the essential point of physical development. It would indeed be unfair to expect that a philanthropic institution should recruit from the same sources, or offer the same advantages, as the Royal Navy. The objection to the training in the Navy is its immense cost, amounting to 55*l.* per head, as compared with 25*l.* per head in the ships maintained by charitable contributions. The number of boys in training in the Navy has, notwithstanding the acknowledged costliness of this plan of recruiting for the service, been increased from 2,421 in 1869, to 3,500 in 1872. The expense involved, and the difficulty of introducing a greater number of boys into Her Majesty's ships, without impairing their efficiency as vessels of war, make it impossible that an increase in the number of boys under training in the Navy can be entertained. It has, therefore, been suggested that the two systems should be combined, and that training ships should be established in our principal ports, supported partly by private subscription, partly by a subsidy from the National Exchequer, and partly by contributions from the parents of the boys themselves.

Naval
training

Training
ships

Much assistance has already been given to the Navy by the training ships already established. In a report of the Marine Society, presented at the annual Court of Governors on February 2, 1871, it is stated that in 1870 there had been 558 boys under training on board their ship 'Warspite'; that 167 were sent into the Navy, and 191 into the merchant service; and that from the original establishment of the society, in June 1756, to

December 31, 1870, there had been sent into the Royal Navy 26,354 ; into the Indian Navy, 3,760 ; into the merchant service and to the fisheries, 21,346 boys—total, 56,634. These figures prove the important services which the training ships may render.

Training
ships ap-
proved by
Commission
of 1859

The Royal Commission of 1859 made a recommendation on the subject of training ships, which has hitherto been neglected, although the more costly portion of their scheme has been adopted in its integrity. They recommended that school ships should be established in the principal ports, capable of accommodating from 100 to 200 boarders in each ship, of whom 100 should be supported by the State. The boys were to be of respectable parentage, strong, and healthy, and approved by the inspecting officers on board the coast-guard ships. The school ships were to be under the Registrar-General of Seamen and the Board of Trade. The military part of the training was to be conducted by the officers of the Coast Guard on the completion of their training. A limited number of boys were to be allowed to enter the Navy. When the system had been perfected, it was thought that it might be possible to dispense with special training ships for the Navy, and to train boys both for the Navy and the merchant service in the same vessels. The commissioners anticipated as the result of such an arrangement 'greater economy in regard to the training ships, and the creation of those kindly feelings between the boys destined for the two services which it was of the utmost importance to encourage.' The Royal Commission suggested that the number of boys to be nominated by the authorities might be fixed at 1,200, and that an equal number might be furnished by the seaports. Thus, 2,400 boys would be supplied annually to the marine of this country. The commissioners

believed that the whole of the number would be readily absorbed by the shipowners. Indentures of apprenticeship were to be managed by the Registrar-General of Seamen. At the end of an apprenticeship of four years a sailor was to be eligible for, and the commissioners believed that the majority would be willing to join, the Royal Naval Reserve. The engagement to serve in the Reserve was to be in the first instance limited to a period of five years. These recommendations of the Royal Commissioners have been adopted, with slight modifications, by Sir Frederick Grey, Mr. W. S. Lindsay, and other eminent authorities, who have more recently studied the question.

Sir Frederick Grey, in a paper, originally printed for private circulation, to which reference is now permitted, has proposed that ten ships should be stationed at the principal ports, each capable of receiving 300 lads. The boys are to be entered in the training ships between the ages of fifteen to sixteen and a half, and at the age of eighteen they are to be rated as ordinary seamen, and discharged into a ship of war to serve for one year. After this year of service in the Navy, they are to join the second-class Naval Reserve, and to receive an annual retainer of 2*l.* 10*s.* After having been four years in the second-class Reserve, they are to be promoted, if found eligible, to the first-class Reserve. If 1,200 of these lads were discharged annually into the Navy, we should have added 12,000 men to the Royal Naval Reserve in ten years.

Approved by
Sir F. Grey

A similar plan has been proposed by Mr. Lindsay. He has advised that the State, instead of bearing the whole expense of educating the boys entered for the Reserve, should contribute an annual payment of 5*l.* to 10*l.* per head for every boy in training. He objects to

Mr. Lind-
say's plan

the continuance of retaining fees after a boy has completed his year's service in the Navy. He recommends a liberal pension to commence at the age of fifty.

Admiralty
training
ships

A similar plan was suggested by M. Dumont, one of the witnesses examined before the *Enquête Parlementaire* on the French Mercantile Marine in 1862. The concurrence of high authorities in favour of the plan would justify the Admiralty in establishing training ships in the Thames, the Mersey, and the Clyde. The cost of such an experiment need not be great. We have many suitable wooden ships in the Navy; and if after a year's trial the results were proved to be inadequate, the ships could be withdrawn, and other means of forming a Reserve could be adopted. A still more economical experiment might be made by adopting the suggestion of Mr. Gray, of the Board of Trade, that the Government should take over one or two of the training ships now in the hands of the philanthropic societies, for the purpose of carrying out a more complete and vigorous system of training.

Bonus for
taking ap-
prentices

The establishment of training ships in connection with the Navy at our principal ports appears an obvious means of increasing the number of seamen eligible for the Reserves. But training ships are an inferior substitute for the more practical experience which can only be obtained in a sea-going ship, and would be unnecessary if it were by any means possible to revive the old system of compulsory apprenticeship, the abolition of which was a corollary to the repeal of the Navigation Laws. If, for the advantage of the State, we wish to encourage shipowners to take apprentices, the propriety of offering a bonus under conditions is not unworthy of consideration. The ships must be sailing ships of an

approved character for the purpose. The amount of the bonus should not exceed 5% for each apprentice. The number of apprentices should be limited to one for every 100 tons register. The apprentices should be chosen by an officer appointed by the Admiralty and the Board of Trade, and indentured to the Registrar-General of Seamen, and the apprenticeship should be for a period of four years. On the completion of his apprenticeship the young seaman should join the Navy for one year, receiving, on his joining one of Her Majesty's ships, a bounty of 5%. Having completed his year's service in the Navy, he should join the Reserve, under the conditions set forth in the scheme propounded by Sir Frederick Grey. The training received on board a merchant ship at sea would be more practical than any which could be given in a stationary vessel, and it would be infinitely less expensive to the State. As an essential preliminary, steps should be taken to ascertain whether the owners of high-class sailing ships would be willing to receive a certain number of boys. Should the proposal be accepted, one hundred boys might be selected, in the first instance, from the same class from which boys are now taken for the training ships attached to the Royal Navy. The entry of further candidates might be suspended until the working of the system had been tested by experience. Should the experiment prove a failure, the boys might be removed from the merchant vessels to which they had been originally appointed, and their training could be completed in the Royal Navy.

Having considered the best means of recruiting the seamen, the next question with which we have to deal is the organisation of a corps of well-qualified officers for the Reserve. If the position of the Naval Reserve be

The officers
of the Naval
Reserve

made sufficiently attractive, officers may be obtained in large numbers from the mercantile marine, well-educated, and well-trained in the nautical branches of their profession, and therefore thoroughly qualified to co-operate with the Navy. On board the 'Conway' in the Mersey, and the 'Worcester' in the Thames, the sons of officers of both services, of barristers, clergymen, and merchants, are receiving an excellent preparatory education for the sea. To prepare these gentlemen for the Navy we have to complete what has been so well begun, by giving to our 'Naval Reserves' the facilities for obtaining professional instruction already given to our auxiliary forces on shore. Arrangements for a short course in gunnery for the officers of the Reserve should be organised on board the 'Excellent' or 'Cambridge.' No officer of the mercantile marine should be allowed to join a school of gunnery until he had previously obtained a certificate as mate or master from the Board of Trade. A system of instruction once established, no officer of the mercantile marine should henceforth be eligible for a commission in the Naval Reserve until he had previously passed his examination in gunnery. As a further encouragement to efficiency lieutenants of the Royal Naval Reserve, being masters of a certain standing in the merchant service, should become eligible for promotion to a higher rank. The highest rank in the Reserve ought certainly to be that of commander, and possibly in some cases a commission as captain might be granted.

Discipline in
merchant
service

It may be thought that an officer of the mercantile marine, though competent as a seaman and a navigator, might be ill-qualified to maintain discipline among a numerous crew. When occasions have arisen for testing the capabilities of commanders in the merchant service,

chosen with judgment for responsible posts, they have shown no incapacity in this respect. When the 'Great Eastern' is employed in laying down deep-sea cables she is manned by the crew of a first class frigate. Discipline has ever been maintained on board, both under Sir James Anderson, when he held the command, and by his successor, Captain Halpin.

The present plan of providing a reserve of officers for the Navy is at once extravagant and ineffectual. It is extravagant because it involves the payment of a much larger number of officers than it is possible to employ. The number of officers on the 'Half-pay and Retired Lists' is so large that, notwithstanding the miserable scale of their remuneration, the non-effective vote constitutes a large proportion of our entire naval expenditure. The present system of providing a reserve of officers is not only extravagant—it is also ineffectual. The number of officers so far exceeds the peace requirements of the Navy that at the time when they reach the prime of life the majority can only look forward to occasional opportunities of obtaining employment afloat. Enforced idleness for an unbroken period of six years, between the ages of thirty and forty, would be thought detrimental to the full development of the faculties in every other profession. In the Navy, in the present state of the lists, it is usual for an officer, on being promoted to the rank of post-captain, to remain six years on shore. Even in the case of commanders it is impossible to find employment at sea for half the officers of that rank in the Navy. Such a state of things must be prejudicial to the Navy in many ways. To spend an interval of several years on shore at a time when such marvellous transformation is taking place, both in naval architecture and naval armaments, must seriously im-

Great cost
of 'Half-Pay
and Retired
Lists'

pede the professional instruction of officers in gunnery, in seamanship, and in every other branch of naval science and experience.

The remedy for this crying evil is a reduction of the lists, and that reduction can only be made with safety by creating a Reserve on which the Navy may rely, composed of officers who, while ready to serve in the Navy in the event of war, will in peace find active and useful employment in the mercantile marine.

Views of Mr.
Lindsay

The policy of enrolling officers of our merchant service in the Reserves has received the unqualified approval of many high authorities. In his speech in the House of Commons, on the Manning of the Navy, in 1860, Mr. Lindsay said, that 'If they were to raise the Reserves to the full extent recommended, they had not got officers sufficient to command them. If, however, they were to look to the merchant service, where quite as strict an examination was undergone as in the Royal Navy, and perhaps stricter, they would have no difficulty in obtaining the number of officers required for a very small retaining fee indeed. Money was not so much an object with them as the position they would gain at home and abroad by being recognised as officers of the Reserve.'

Sir Charles
Napier

The views of Mr. Lindsay were confirmed by Sir Charles Napier. He said: 'Suppose you had obtained your Naval Reserve men, where would you get officers to command them? You would then find it absolutely necessary to come to the merchant service. Why not come to that service now? Assign the volunteers their rank, and give some slight decoration.'

Advantages
of higher
education
to mercan-
tile marine

The Board of Trade would add to the prestige and efficiency of the officers of the mercantile marine by requiring a broader education in the candidates for

first-class extra masters' certificates. The examination should include, not merely navigation and seamanship, but one foreign language at least. The elements of a commercial education would prove of immense advantage to the captain of a merchant ship, as the representative of the interests of his owner abroad. A higher general education would enable officers of the mercantile marine to command superior salaries, and if by passing an examination in gunnery they could obtain a moderate annual stipend from the State, the commanders in the mercantile marine would be more adequately rewarded, and the profession would acquire a status more commensurate with its real importance than it has hitherto reached.

The elevation of the officers of our mercantile marine professionally, morally, and socially would not be the least of the advantages to be anticipated from a more intimate connection between the Navy and the Reserves. On the seamen of our mercantile marine, a highly qualified body of officers might confer immense benefits.

The creation of a naval university, open to both branches of our national marine, may prove the means of uniting more closely the Navy and the merchant service. Those who avail themselves of the advantages held out to them in one national seminary of naval lore will learn to recognise each other as members of one honourable profession, each branch of which must flourish if England is to retain her naval preponderance, and every member of which should acknowledge with pride that he is bound to take his part in defending the honour of his country.

From the Royal Naval Reserve and its officers I turn to the Coast Volunteers, a force which could cer-

Effect of
naval uni-
versity

The Coast
Volunteers

tainly be easily organised if pains were taken to ensure success. Recent naval administrators have unaccountably neglected this branch of the Reserves. The Committee of 1852 recommended that a force of 6,000 Royal Naval Coast Volunteers should be raised, and trained to the great guns through the instrumentality of the Coast Guard. The Royal Commission, confirming the high estimate of our fishing population as a Naval Reserve by the Committee of 1852, advised that the force should be raised to 10,000 men, and recommended that the Royal Naval Reserve should be divided into two divisions, the first consisting of able seamen from the merchant service and school ships, and the second division recruited from the resident seafaring population; in other words, the fishermen and seamen employed in the coasting trade. It was contemplated that the second division would absorb the Royal Naval Coast Volunteers. According to the figures in the last naval Estimates, the Royal Naval Coast Volunteers have been reduced to 1,500 men, and the attempt to create a second class has been an utter failure.

Number and
quality of
men in
fishing
industry

It cannot be said that eligible men are wanting. The last return shows that 153,000 men and 14,000 boys are employed in the vessels engaged in the fisheries of Great Britain and Ireland. Of this total there are in Ireland 37,000 men and 1,700 boys; in Scotland, 68,406 men and 4,473 boys. The physical power and hardy qualities of the Scotch fishermen must be seen to be appreciated. Admiral Macdonald, now second in command of the Channel Fleet, when commanding a coast-guard ship on the Clyde, enrolled in a few weeks 600 men in the Coast Volunteers. They averaged one inch taller and two inches more in girth round the

chest than the marines on board his ship, although the latter were a remarkably fine body of men. The local knowledge of the fishermen is an important qualification. Our regular man-of-war's men and the seamen of our mercantile marine being chiefly employed on foreign service, it is impossible to over-estimate the advantage of having a body of men in our Reserve who possess an intimate acquaintance with the intricate navigation of our own coasts. The fishermen never sail under a foreign flag. They have fixed places of residence, can always be found when their services are required, and their moral character is in the highest degree meritorious. Referring to the men to be obtained on the coast of Essex, and of whose qualifications and conduct I have had the best opportunities of judging, I cannot speak too highly in their praise. The fishermen in my employ, exposed, when serving in a yacht, sometimes for months, to the temptations of foreign ports, have ever shown themselves superior to all the enticements of the shore, and have regularly remitted to their families more than two-thirds of their earnings. The result is happily manifested in the comfort of their village homes, which are all that the philanthropist could desire. The short and simple annals of the poor contain no more creditable or reassuring tale than the story of these, my humble but beloved companions on many a pleasant cruise—pleasant, because of their good conduct and faithful discharge of every duty.

The fishermen of England as a class are men whom we can ill afford to lose from our Reserves. It is possible, by a wise modification of the rules, to create from among their number a Reserve for the manning of our gunboats. If it was intended that the second-class

Further
criticism of
rules for
second-class
Reserve

Reserve should be formed as a substitute for the Royal Coast Volunteers, the qualifications required in candidates for admission into the force were unnecessary. The original idea was that all the fishermen or boatmen should be eligible for the Coast Volunteers. Under the regulations for the entry of the men into the second-class Reserve, a knowledge of seamanship as practised in square-rigged vessels is insisted upon, and thus our longshore population, whose services in gunboats would be invaluable, are excluded from our sea militia. At the village of Rowedge on the Colne, whence yacht-owners obtain most excellent crews, there are 300 fishermen, and two-thirds of these men have never sailed in a square-rigged vessel. At Brightlingsea there are from 600 to 700 fishermen. Few of their number have had experience of other than fore-and-aft vessels.

Unwise
rejection of
fishermen

While the qualifications required of candidates are unnecessary, the severity with which they are tested equally deserves criticism. Several men from Rowedge have recently applied to be re-enrolled in the first Reserve ship at Harwich. They have been rejected for failure in heaving the lead in man-of-war fashion. In small vessels there is no opportunity and no necessity for the display of this accomplishment. To heave the lead properly in man-of-war fashion a scope of some three fathoms of line is required. In a small vessel with perhaps from three to four feet freeboard the necessary scope of line can never be given. The fishermen, although well acquainted with the use of the lead and perfectly competent to take true soundings, are rejected from the service because they are not perfect leadsmen according to the naval standard. When men have proved themselves well qualified in other respects,

they should not be rejected for failure in one point only, in which, moreover, if they were allowed a few days for practice they would become sufficiently expert. If a knowledge of the art of reefing and handling topsails, and sending yards up down, were considered essential, it would be worth while to give to *bond fide* fishermen instructions in those evolutions.

On the coasts of Suffolk and of Norfolk, the owners of the fishing boats engaged in the herring fishery are in the habit of forming their crews in the proportion of at least one-half of agricultural labourers. A short experience at sea renders these men perfectly efficient for the duties on which they are employed. Their principal work consists in hauling in the herring nets. The severity of the task may be appreciated when it is mentioned that they have to walk a distance of eight miles round the capstan every morning when the nets are hauled in. Men who can perform such an amount of labour on board a small herring-boat would be perfectly able to go through gun drill on board a gunboat. The example of the proprietors of these herring-boats may with advantage be followed by our naval administrators, who, while rigorously excluding unfit persons, might search for recruits over a much wider area than they have hitherto explored. It is the more desirable to enrol fishermen in the Reserves because, during the intervals of enforced idleness in the fisheries, they can attend the necessary drills without inconvenience. At Hastings additional hands are always employed in the herring and mackerel season, from April till November. During the trawling season not much more than half the number are employed at sea. Those who remain at home, if fortunate enough to be the owners of boats, are occupied in mending their nets. A large proportion

Aptitude
of men in
herring
fishery

of the remaining hands are dependent on parish relief. The opportunity of earning a moderate rate of remuneration for attendance at gun drill would be eagerly sought by the unemployed fishermen.

Original
plan for
the Coast
Volunteers

The general idea which the promoters of the Coast Volunteers had in view was clearly described by Lord Halifax in his evidence before the Select Committee on the Board of Admiralty in 1861. 'It was,' he said, 'intended to carry out more fully the step which had been taken by Sir James Graham in forming the Naval Coast Volunteers. They were attached to the coast-guard ships in divisions as far as they could be, and that measure had very great success. I inspected several ships' companies in 1857, and in March 1858, and their numbers were as follow : There were 5,776 enrolled—4,448 trained, 441 under training, and 61 had volunteered for the Navy. I think that justice has never been done to the Naval Coast Volunteers. They have been objected to on the ground that they would not go for foreign service. It was never intended that they should do so. The object of forming that body was to provide for the defence of the coast, in case of need, in such vessels as could be employed along the coast. If they were men habitually going on foreign voyages you could not depend upon finding them when you wanted them. The object, of course, was to have men with a certain acquaintance with naval matters, used to boats and small vessels, and whom you could at any time lay hands upon and put on board gunboats, and vessels of that description, at the different ports. The general scheme was, that there should be attached to all the coast-guard ships a small flotilla of gunboats, to be manned by the Naval Coast Volunteers. It so happened that we were removed

from office before we had time to carry it out ; but I believe it would have afforded a very efficient defence all round the coasts of this country. I do not see why the Naval Coast Volunteers should not have been carried to many thousand men. I believe they might have been carried to 20,000 or 30,000 men, all round the country. I believe that they may be still carried to that extent, if properly managed and encouraged by the Coast Guard officers in the different districts.'

In addition to the various corps or descriptions of force already enumerated, there are indications that the spirit of the Volunteer movement, which has shown so much unanticipated vitality, will be exhibited on the sea as well as on the land. A scheme has very lately been laid before the present writer for the formation of a corps of Naval Volunteers. The gentlemen by whom the movement has been initiated are accustomed to yachting and boating, and fond of the sea. They offer to go through a course of gun drill, and, in addition, to serve afloat for 14 or 21 days every year in a gunboat, if such a vessel could be supplied for their instruction. The proposal contains the germs of a movement which may in the end prove extremely important, and which appears, to judge by his recent speech at Liverpool, to command the sympathies of Mr. Goschen. The scheme, however, is not yet matured, and much consideration will be required in working out the details.

Naval
Volunteers

The preliminary gun drills for Naval Volunteers might be carried on without serious inconvenience, and without any addition to the public charge, on board the drill ships of the Royal Naval Reserve. Distinct hours could be set apart for the drill in the afternoon in the summer months after the seamen of the Royal Naval

Details of
Volunteer
scheme

Reserve have completed their daily task. It would be necessary to stipulate that a full gun's crew of Volunteers should attend ; otherwise the drill should not take place. When a number of Volunteers sufficient to form a crew for a gunboat had been passed as efficient in gun drill, had proved their ability to pull a strong oar, and been instructed in small-arm and company drill, they should be formed into a distinct corps. A gunboat might be fitted out, and stationed in the port to which the corps belonged, in charge of a commissioned officer, or in some cases a gunner of the Royal Navy, with a small staff of petty officers and a detachment of marines. To this gunboat the corps should be attached, and the drills should thenceforward be conducted on board. Once a year the gunboat should be sent to sea for a fortnight's cruise, manned by her own crew of Volunteers, who should be required to pay their own expenses of uniform and messing, and to perform, when embarked, all the duties of the vessel as seamen before the mast. A portion of the expense of the permanent staff of the gunboat should be defrayed by subscriptions among the members of the corps and their friends. Yacht-owners might be allowed to embark, under suitable regulations, either as a portion of the crew, or, in some cases, as subordinate officers under the officer of the Royal Navy commanding.

Many unforeseen difficulties may arise in carrying out a proposal essentially tentative and experimental. The Volunteers may find life at sea too severe an ordeal ; but the experiment deserves patient trial. If only 1,000 Volunteers can be found willing to give their unpaid services to their country, their patriotism deserves recognition, and they will have the proud satisfaction of knowing that they may be enabled to

set a high example in a good cause to many who may hereafter follow.

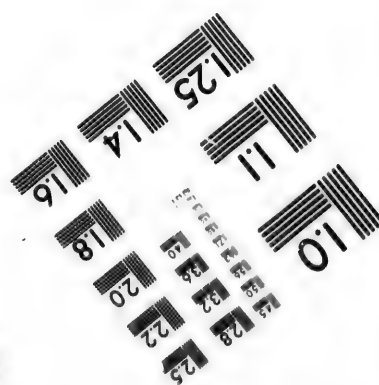
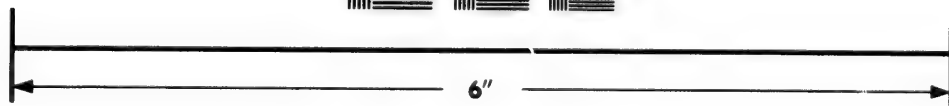
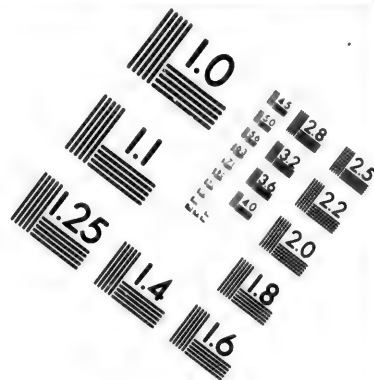
We need not anticipate a difficulty in finding officers to command our Naval Coast Volunteers. Many officers have been retired under a recent Order in Council at the prime of life. It would be only just to afford them an opportunity of rendering further services to their country by giving them charge of the Reserves—a duty which many would be happy to undertake for a small addition to their retired pay.

Officers
for Coast
Volunteers

The formation of an able staff of superior officers, in connection with the Reserves, is the best and only guarantee for their efficiency. Provision is made in the Estimates of the current year for Reserve forces, numbering in the total 21,200 men. The command of this large force is a duty of sufficient importance for one flag-officer at least. The highest appointment in immediate connection with the Reserve is that of Controller of the Coast Guard, an appointment which is held by a post-captain in the Navy. There should be four or five inspecting flag-officers for the Reserves, a commander-in-chief at headquarters, and an admiral for Scotland, for Ireland, the English Channel, and the East Coast.

Inspecting
staff for
the Naval
Reserves

Seeing that the post of commander-in-chief at each of the naval ports is always held, and properly so, by an admiral of high rank, there is an obvious inconsistency in entrusting the superior command of the Reserves to a post-captain. Owing to the want of supervision by officers of high rank, specially appointed for that duty, who could both effectually superintend the drill and discipline of the force, suggest improvements in its organisation, and supply a channel of communication with the Admiralty, in which both the men



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of the Reserves and the country could have confidence, the large outlay on our Reserves has not as yet produced such a result as the naval service and the taxpayers might fairly have anticipated.

The strength of the Reserve must be settled by the Government from time to time

Although allusion has been made to the recommendations of the Royal Commission of 1859, no attempt has been made in the foregoing pages to define the necessary strength of our Reserves of the several classes. This is a point which must be determined by the Executive Government from time to time, according to the circumstances of the political situation. It may, however, be presumed that a force of 20,000 men in the first division of the Royal Naval Reserve, and 10,000 men in the second division, would be a sufficient permanent Reserve. It would certainly furnish crews for all our ships at present available. As additional ships were built, crews could be obtained by offering attractions in point of pay which would induce seamen to join the Navy. The expenditure involved in a large addition to the general pay of the Navy would undoubtedly be very great; but as war is, we may venture to hope, a remote contingency, it is more economical to run the risk of a large expenditure, should an emergency unhappily arise, rather than burden the country with a serious permanent expenditure in time of peace.

The Steam Reserve

Having dealt with the more general question of a supply of seamen and officers, our Steam Reserve cannot be entirely omitted from consideration. In a recent parliamentary paper on the supply of coals to the Navy allusions are incidentally made to the insufficient number of trained stokers in the Navy. Captain Willes says that 'The amount of smoke made by the Reserve Squadron during the late cruise might be attributed to

Captain Willes on stokers

bad stoking. I have for a long time studied the probable state of the engine-room in the event of a sudden war. So far as the ships of the Reserve Squadron are concerned, some few would have, in addition to the small number of stokers allowed them, some able stokers, although much out of practice, from the shore force, with the addition of raw hands from the Steam Reserve, whilst others would have nothing but raw hands in addition to the present nucleus. Ships in the Channel Squadron could not have more than one-half good stokers to hand, and on the outbreak of a war indifferent stoking would be the rule rather than the exception.' Again, in the report of the late Engineer-Assistant of the Admiralty on the trials of coal in Indian troopships, we are told that in the 'Serapis' half the complement of stokers were second-class landmen, who had to be taught, and that this was also the case with the 'Crocodile.' Admirals Elliott and Ryder, in their report on the designs of our ships of war, incidentally alluded to the unsatisfactory force of stokers in the Navy, of whom they say that they are not only insufficient in number, but also of very inferior physique. In the Crimean war, owing to the great demand for engineers who had had experience in driving high-pressure engines, many incompetent men were appointed. So it will always be when an emergency occurs, and there are no Reserves on which we can rely. With the immense advantage that we possess in the great steam fleet of the mercantile marine, this country ought not to be exposed to the chance of a difficulty in obtaining engineers and stokers for the Navy in any emergency, however sudden. A Steam Reserve should be formed, composed of men who should engage to serve in Her Majesty's ships when required, but who should

Experience
in Crimean
war

only be called upon to join the Navy in the event of a war.

Why there
should be
another
Commission

It is impossible to review the immense change which has taken place since 1859 in the character of our mercantile marine without being convinced of the necessity for a most careful inquiry into the system upon which our Naval Reserves are organised. Some modifications must be required to bring the rules and regulations, devised twelve years ago, into harmony with the present condition of our merchant service. Had the character of our shipping remained unchanged, it is probable that the Royal Naval Reserve would have grown with the growth of our commerce. The transition from sailing ships to steamers, and the abolition of apprenticeship, have created new difficulties, by contracting the nursery for seamen; and to organise a new system of training is not an easy task. Elaborate inquiry is necessary, and many witnesses must be examined, in order to ascertain the views of the shipowners and seamen in the various ports. It seems scarcely possible that the First Lord of the Admiralty, or even less exalted officials, can spare time from the administration of a widely scattered and complicated service for such an investigation. Under these circumstances it seems an obvious alternative to delegate the inquiry to a committee of naval officers, or to a Royal Commission. The success which attended the appointment of the Committee of 1852 and the Royal Commission of 1859, to whose suggestions we owe the Reserves we actually possess, gives reason to hope that a new Royal Commission would be the means of bringing together much information and eliciting many valuable suggestions.

The arguments of those who are of opinion that enough has not been done to unite the merchant service

with the Royal Navy for the defence of the country derive no inconsiderable support from the experience of recent wars. The efficiency of the Prussian military system has been signalised by its unparalleled success. In the field we cannot vie with the Continental Powers. On the sea our superiority may be secured by a careful organisation of our vast resources. The statesman will prefer that naval preparations should be matured, not by withdrawing a large number of men from their useful labour in a peaceful vocation, but by adding to the qualifications of our seamen a knowledge of arms, easily imparted, and habits of discipline which, while they are essential in war, are not less valuable in peace. If a modification of the rules and regulations at present in force for the enrolment and drill of the seamen of the Reserve is not enough to raise the force to the strength at which it may be necessary that it should be permanently maintained, the establishment of a certain number of training ships at the great commercial ports will doubtless prove an effectual means of creating an adequate Reserve. While economy is justly regarded as the paramount duty of Government, of all forms of naval expenditure that involved in the establishment of training ships will be found the most satisfactory in its results. A well-conducted training ship should not merely be a school of instruction in seamanship, but a place of education in the highest sense. How miserable are the haunts in which a large number of our seamen exhaust their hard earnings in degrading pleasures! To bring the seafaring population within the reach of humanising and benign influences is a difficult task which well deserves our thoughtful consideration. Good impressions firmly fixed in early life are the best shield against temptation in later years; and thus the work of

Necessity
of union
of Royal
Navy and
merchant
service

Value of
training
ships

recruiting for the Naval Reserve will incidentally promote the nobler object of elevating, both in character and in intelligence, a section of our population most difficult to reach, and to whose enterprise and patriotism our national greatness is largely due.

III

NAVAL RESERVES

PAPER READ AT THE ROYAL UNITED SERVICE INSTITUTION,
APRIL 21, 1873

I APPEAR before this Institution essentially as a learner and not a teacher. As a member of Parliament, interested in our naval administration, I most anxiously desire to ascertain what, in the opinion of naval men, are our actual requirements as regards the number of seamen in reserve for the manning of the fleet. The public, and Parliament, as representing public opinion, are prepared to provide, with an ungrudging hand, whatever the naval men declare to be essential to our maritime power and security. It is for the Navy to tell the public what our requirements are.

In dealing with the great question of our Naval Reserves—a subject too vast to be considered as a whole within the narrow limits of a short oral address—I shall say but little of the actual organisation of the force. I shall prefer to dwell on points which still await solution, and upon which the opinion and thoughtful consideration of naval men are greatly needed. There are three problems which I will specially single out for discussion.

First. What number of seamen ought we to en-

Points for
discussion

deavour to enrol, whether in the First or Second Class Reserve, or as Naval Coast Volunteers?

Second. To what extent may we venture to rely on the merchant service to provide officers for our Navy in time of war?

Third. What are the most effectual means of raising and training a force for the especial purpose of coast defence?

Naval
opinion
in 1852

The inquiries, instituted in 1852, as to the probable requirements of the British Navy, elicited the usual divergency of opinions from the naval officers who were consulted. Sir John Stirling estimated that 60,000 men would be necessary to man the Navy in time of war. Admiral Denman, on the other hand, believed that, on the outbreak of a war, a fleet of 100,000 men would be immediately required; but, inasmuch as of the 40,000 employed in 1852 only 15,000 were seamen, he believed that of the 60,000 additional men required for a war Navy, only 23,000 need be seamen.

The effect of modern mechanical appliances in relation to the manning of the Navy, was scarcely perceived at the time of the Crimean war; but the fact that the number of seamen and marines employed in the British fleet at that period never exceeded 68,000, afforded some indication of the coming change.

Increase of
American
Navy in
civil war

In the recent civil war in America, the Navy of the United States was increased to vast proportions. Land defences of great strength were attacked by their ships. An effectual blockade was maintained along 3,500 miles of coast. A fleet of cruisers was despatched in chase of the 'Alabama,' and other piratical vessels, to every part of the world. To perform these varied services, some 671 vessels were employed; but such was the effect of modern changes in naval warfare, that the number of

men employed in the United States fleet never exceeded 51,000 men. The blockade of Charleston is one of the most striking examples of the reduced numbers of seamen required in modern naval warfare. The report of the Secretary of the United States Navy on armoured vessels, published in 1866, contains a despatch from Admiral Dahlgren, dated off Morris Island, January 1864, in which the following observations occur: 'The completeness with which four little monitors, supported by an ironclad frigate, have closed Charleston, is well worth noting. These four monitors, which thus keep watch and ward, muster eight guns and 320 men, which is almost insignificant compared with the work done.'

The last Royal Commission on the Manning of the Navy, reporting in 1860, had not the experience of the American war as a guide for determining our probable requirements. The following statement exhibits the whole amount of reserve which they recommended :

Royal
Commission
on Manning
of 1860

Reliefs in the home ports	4,000
Coast Guard	12,000
Marines embodied	6,000
Ditto, short service pensioners	5,000
Seamen, short service pensioners	3,000
Royal Naval Volunteers	20,000
Naval Coast Volunteers	10,000
	<hr/>
	60,000 men

Since the publication of the report of the Royal Commission of 1859 naval warfare has been almost revolutionised. When, on a recent occasion, I introduced a motion in the House of Commons on the condition of our Naval Reserves, I urged the appointment of a Select Committee to inquire into the subject, mainly on the ground that, in consequence of the immense

changes which have taken place, the number of seamen required for the Reserve could no longer be taken as definitely settled by a report drawn up some fifteen years ago. How great a change has taken place in this regard was clearly shown in the able speech of Mr. Shaw-Lefevre, in which he pointed out that at the date when the inquiry of the last Royal Commission was held the flag-ship in the Mediterranean required a complement of from 600 to 700 blue-jackets, while for the present flag-ship, the 'Lord Warden,' 200 are sufficient; and, if the 'Devastation' represents the flag-ship of the future in European waters, then 100 able seamen will do the work, for which, in the good old times of full-rigged three-deckers, a crew of 600 seamen was essential.

Number of
seamen
required for
a modern
battle fleet

I believe I am correct in saying that at the present moment we have not more than 32 or 33 ironclads afloat adapted for cruising in distant waters, or for service in which the aid of sail-power may be regarded as indispensable. Some years must elapse ere our ocean-going ironclad fleet can be increased to a total number of 50 vessels. If it be fair to take the crew of the 'Lord Warden' as representing the average number of seamen required for one-half of our ironclad fleet, and if the complement of the 'Devastation' may be accepted as the normal number for ships of her class—and, to judge from the Naval Estimates of the present year, one-half of our new ironclads will be mastless ships—then it would appear probable that we should require for the complements of a fleet of 50 of the most powerful ironclad ships not more than 7,500 *bonâ fide* seamen. For a fleet of 50 ships of the type to which the flagship in the Mediterranean fifteen years ago belonged, we should have required a force of 30,000 seamen. The inference seems to be irresistible that in a future naval

war we shall not require so many seamen as formerly for our ocean-going line-of-battle ships. Making every allowance, therefore, for the increased importance of the commerce, and assuming that, in consequence of the withdrawal of the troops, the defence of the colonies will be in a larger sense than heretofore committed to the Navy, I venture to submit that we no longer require 20,000 seamen in our First Class Reserve. The First Class Reserve now numbers about 12,000 seamen, very carefully selected ; and if 10,000 men answered to their country's call we should find it difficult to make use of their services. Hence I arrive at the conclusion that we are in a highly satisfactory position as regards the numerical strength of our Naval Reserve.

The policy of creating additional means of training seamen for the Reserve must depend mainly on the views entertained in the Navy as to the strength at which that Reserve should be maintained. If our present reserve be really inadequate, then training ships, with brigs attached as sailing tenders, should be at once established, at least in London and Liverpool. If, on the other hand, the actual strength of the Naval Reserve is adequate, then naval reformers will not be justified in urging upon the consideration of Parliament proposals for training young seamen for the reserves at the public expense.

Training the
reserves

Before I pass to the second subject with which I have to deal, I would invite naval officers to say whether or not they think that the seaman of modern times has deteriorated by comparison with his predecessors. I believe that it is the opinion in the Navy that, so far as that branch of the great marine of England is concerned, the greatly improved system of training which has been established has produced in the seaman of modern times a very valuable man. But it is well known to naval

Quality of
present
seamen

officers that the mercantile marine do not consider themselves quite so fortunate. Whether or no that public opinion is founded upon good and substantial reasons it is very difficult to determine. Speaking as a yacht-owner of some eighteen or nineteen years' standing, I am bound to say that the class of seamen we employ, I believe now 8,000 in number, do not appear to me to have shown the slightest deterioration.

Number
of naval
officers un-
employed

I desire now to make a few observations on the officers of the Reserve. There is no profession in which so much talent is lost for want of opportunity for its exercise, none in which so much honourable ambition is doomed to disappointment as the Navy. The half-pay list contains a multitude of names of officers without private means, and eager for employment, which is denied to them for the greater part of the best portion of their lives. Can we not remedy this evil by first creating a reserve of officers in the mercantile marine, and then reducing the number of officers in the Navy to something like the number actually required in time of peace?

Cadets of
'Conway'
and
'Worcester'

At the present time young gentlemen, socially qualified in every way for service in the Navy, are being educated on board the 'Conway' in the Mersey, and the 'Worcester' in the Thames. If the Admiralty were to afford to these officers, after they have passed their examinations as masters and mates, the opportunity of adding to their nautical education, received at sea, a competent knowledge of gunnery, we should have in them an invaluable reserve of officers. For this purpose, a short practical course of gunnery and naval tactics should be arranged in connection with the 'Excellent,' analogous with the course of military instruction which has been arranged for Volunteer officers at Aldershot.

Eligible young officers of the mercantile marine should be encouraged to go through the course by the offer of a premium, to be paid to them on their passing a satisfactory examination. The premium should be sufficient in amount to cover the expense of their residence in Portsmouth, and also to compensate them for their loss of time in not going to sea while remaining on shore for the purpose of study.

The Board of Trade would do much to promote the success of this scheme by raising the standard of examination for the extra master's certificate, which might be extended so as to include both modern languages and the more important elements of commercial science. The privilege of going through the course on board the 'Excellent' might be confined to those officers who had passed this higher examination. I would urge the endeavour to raise the status of the officers of the mercantile marine as an object of high administrative policy essentially philanthropic in its tendency. There is no position more full of responsibility, none in which there are greater opportunities of doing good or harm, than that of commander of a merchantman. In distant seas, far removed from the influence of public opinion, the sea officer has unlimited powers of raising or lowering the character of his crew, and alleviating or aggravating the inevitable hardships of their lot.

Higher status of officers of mercantile marine urged

Unless it be accepted as an axiom that young gentlemen should not enter the Navy without being possessed of the advantage of considerable private means, the present half-pay system is a serious evil. There should be no half-pay for officers on the active list. After service at sea a fair amount of leave should be granted. In all ranks, a year ashore for every three years passed afloat would not be too great an indulgence. If the numbers

Evils of half-pay system

be reduced, useful employment could always be found for all officers in the higher ranks of the Navy, in developing the numerous novel inventions for naval warfare, in watching the progress of gunnery, in criticising the recent modifications in naval architecture, or in applying their attention to the safety of life at sea, and other kindred subjects. There is always much work to be done for the Navy and the mercantile marine, with which naval men are specially competent to deal.

Numbers
and quality
of men
for Coast
Volunteers

From the Royal Naval Reserve and its officers, I turn to the Coast Volunteers. The Committee of 1852 recommended a force of 6,000 Coast Volunteers, and the Royal Commission of 1859 advised that the number should be 10,000. According to the latest estimates the number has been reduced to 600 men. It cannot be said that eligible men are wanting. The latest return shows that 153,000 men and 14,000 boys are employed in the fisheries of the United Kingdom. In physical power and hardy habits the fishermen are superior to the seamen in foreign trades. Their local knowledge would be of immense value in coast defence, and the fact that they have fixed places of residence and never sail under a foreign flag makes it certain that they would always be found when their services were required. Of the moral character of the fishermen as a body I can speak with the greatest confidence. The Coast Volunteers are not a popular force in the Navy. The reason is that, for political purposes, the men originally enrolled were admitted into the service with discreditable laxity.

Facilities
for fisher-
men to drill

It would not be difficult to raise, from among our large population of *bonâ fide* fishermen, a reserve equal to the standard recommended by the Royal Commission.

There seems a disposition to induce the fishermen to join, not the Naval Coast Volunteers, but the Second Class Naval Reserve. The means, however, which are proposed for carrying out this policy are inadequate. The fishermen are congregated in isolated communities on various points of the coast. They are men of domesticated habits, and it would be difficult to induce them to join the Reserve, if they had to go to a distance from their homes to be drilled. The list of ships and batteries at which the Naval Reserve may take their drill, though imposing enough in point of numbers, does not include some of the most important fishing communities on the coast of the United Kingdom. For example, while there are batteries for drill at Poole, where the number of men and boys employed in fishing vessels is only 214 ; at Maryport, where there are only 69 ; and at Lynn, where there are only 266 ; there are no similar establishments at Sligo, which has 4,800 men and boys in the fishing vessels of the port ; none at Skibbereen, which has 5,500 fishermen ; none at Banff, which has 5,600 ; nor at Stornoway, which has 8,000 ; nor at Wick, which has 8,400 ; nor at Inverness, which has 9,000 fishermen. The list which I have read is sufficient to show what immense numbers of fishermen are collected at some of the Scotch fishing stations ; and these men are, as is well known, remarkable for their physical strength, hardy habits, and good character.

In view of the importance to the Navy of recruiting in this section of our maritime population, the Manning Committee of 1852 strongly recommended that the Scotch Naval Station should be re-established. Where the Navy is best known, as they truly observed, there the flower of the population are ready to enter it. In 1852 there were more men in the Navy from the village

Recruits
join where
Navy is
known

of Cawsand than from the port of Liverpool. The return of the counties in which the boys in the training ships in 1871 were born, shows that out of 2,888 boys, only 90 came from the whole of Scotland ; only 112 from Lancashire, including the Isle of Man as well as Liverpool ; only 23 from Suffolk ; 11 from Norfolk ; and 18 from Wales. Can it be supposed that the great seafaring populations which reside on those coasts have ever been made thoroughly acquainted with the advantages enjoyed by those who serve in the Navy and the Reserve ? The fluctuating nature of their occupation would enable the fishermen to attend drill with little inconvenience. The drill could be taught in the most effective manner, and with the least expense to the Government, by sending a gunboat to visit the fishing ports at the slack season. These periodical visits of a smart, well-organised gunboat, would do much to create a favourable impression of the Navy amongst the fishermen. The expense of keeping a few gunboats in commission for this purpose would be nominal. We have more seamen at present in the home ports than it is possible to employ in sea-going ships. Some of these men might be attached to gunboats instead of remaining in stationary flagships. The display of the white ensign in the fishing ports would be a more effectual means of recruiting for the Reserve than the labours, however assiduous, of any number of registrars, and the barren exhibition of recruiting placards.

Visits of
gunboats
to fishing
ports

Strength
of Naval
Reserve
required

I have ventured to express an opinion that the standard of strength for the First Class Naval Reserve would not be inadequate, if maintained at 10,000 men. For the Coast Defence Force, I cannot regard the number proposed by the Royal Commission in 1860 as beyond our necessities. Though naval warfare may be changed,

the services of men well acquainted with our own waters must always be invaluable, whether to man our gunboats, to lay out torpedoes, or even to fight heavy ordnance in batteries on the coast, and to co-operate with the military forces in operations on shore. To some it may appear doubtful whether all the dash and *elan* required for naval operations is to be found among the stay-at-home people who earn a livelihood in our fisheries. Had they seen, what the author has often witnessed, the agility, the seamanlike resource, and the nerve, which these men never fail to display in the ever-varying incident and adventure of sea-life, they would no longer doubt their aptitude, if properly trained, for every duty which the crews of our coast flotilla may be called upon to perform.

The enrolment of fishermen in the Reserves has been advocated by our most experienced naval reformers—by Sir Charles Napier ; by Admiral Berkeley ; by Sir William Hall ; by Admiral Hastings ; by the late Sir Alexander Milne, and by many other most distinguished naval officers.

The rules for admission into the Coast Volunteers should be so framed as to require only such seamanship as every experienced fisherman must possess. Training in gunnery and small-arm drill are the only additional qualifications needed to make our fishermen thoroughly useful in the Coast Defence Flotilla. In the recent revision of the rules and regulations for the Naval Reserve, the conditions of entry for the Second Class Reserve have been judiciously modified, so that the fishermen will now be eligible for enrolment.

The training should be given afloat, and, in order to propitiate the local sympathies of the fishermen, the gunboats, which they would be employed to man in

Qualification
for Coast
Volunteers

times of war, should be permanently stationed at the ports in which their crews are respectively raised.

Local
knowledge
for officers
of Coast
Defence

Officers should be selected to command the Coast Defence Reserve who have exhibited special aptitude for that branch of the service. They should reside at the principal fishing ports, and be permanently attached to the Coast Defence Service. By these means they would have the inestimable advantage of being personally acquainted with the men under their command. In his evidence on the manning of the Navy, in 1852, Admiral Berkeley stated that special care should be taken in the selection of officers for the Coast Defence Service, and that it was essential that all the officers, and particularly the commanding officer, should be accustomed to the fishermen and they to him. In addition to the proposed drills in gunnery and the use of small arms, it would be highly expedient that officers and men should make themselves locally acquainted with the channels and entrances to the harbours in their respective districts, and be instructed in the use of the torpedo, and its application to coast defence. The annual drills afloat, and the musters of the Coast Defence Flotilla for inspection by the divisional captain of the Coast Guard, or for inspection in larger numbers at naval reviews, would secure the continued efficiency of the officers of the Coast Defence Service in seamanship and navigation.

Extension
of Naval
Volunteer
movement

In addition to the various descriptions of forces already enumerated, an attempt has been made to extend the Volunteer movement to the Coast Defence Service. A corps composed at present of 100 gentlemen employed in banks and private offices in the City, has been provisionally enrolled, and several hundred additional applications for admission have been received. The

Volunteers actually entered have attended drill on board the 'President,' and, in the opinion of the instructors, they are the most intelligent and the smartest gunners who have ever been drilled on board the ship. A gun's crew of fifteen gentlemen have recently passed out as trained men, and the senior instructor tells me that they are unquestionably the very best gun's crew who have ever been drilled on board the 'President.' The movement has extended itself to Liverpool, where the First Lord of the Admiralty did so much to initiate it by an encouraging speech. It remains to be proved whether the idea can be carried out in a practical shape.

The experiment, however, of sending landsmen afloat has been tried on the American lakes, where in the seasons of 1871 and 1872 three batteries of artillery were embarked in the dominion gunboat 'Prince Alfred,' remaining afloat, each battery for fourteen days, cruising on Lakes Huron and Erie, and taking part in the military manoeuvres carried out by the Canadian Volunteers under the command of Sir Hastings Doyle. I can quote another example of the readiness with which landsmen adapt themselves to some descriptions of sea-service. In the herring fisheries off the coasts of Norfolk and Suffolk, boats are manned, to a large extent, by agricultural labourers.

Much of the success of the Naval Volunteer movement must depend on the readiness of the Admiralty to afford the necessary facilities. The most immediately pressing matter is the appointment of a commanding or inspecting officer. Until the Admiralty place a naval man of rank and experience at the head of the Volunteers an invaluable aid to efficiency will be wanting, and the formation of a contingent at many of the ports round

Landsmen
afloat

Assistance
of naval
officers
required

the cost will be indefinitely delayed. I have received applications from Southampton, Dundee, Wales, Musselburgh, Harwich, and Bristol for assistance and advice. It is very desirable that a naval officer should be available to visit these localities where a disposition exists to organise a local corps of Naval Volunteers, and I am happy to be enabled to state that the appointment, which I so earnestly recommended, will shortly be made.

Gunboats
required for
instruction

The appropriation of a gunboat for the instruction of the members of the London contingent is equally indispensable to the success of the Naval Volunteer movement. Practice in firing at a target afloat and in working a gun mounted on a gunboat is necessary for efficiency. On the other hand, the opportunity of spending a week every year on the water is essential to the popularity of the movement. In a time of profound peace, and in a country in which the principle of compulsory military service has not been accepted, men will not volunteer for the somewhat laborious task of going through an annual course of naval gun drill without some inducement. The most earnest men who have joined the Volunteer movement hope they may thus obtain the opportunity of spending a few days afloat every year. The gunboat appropriated to the Volunteers in the Thames might do duty as a tender to the 'President,' the drill-ship of the Naval Reserve in the London district. Hitherto, none of the seamen belonging to the Reserve in the Port of London have ever had any practice in firing at a target afloat. At Liverpool, on the other hand, a gunboat is attached to the drill-ship, in which the seamen of the Reserve are regularly exercised. The Volunteers would not urge upon the Admiralty the expenditure of money, especially on their behalf; but the inconvenience of attending drill in the West India Docks

to gentlemen whose usual pursuits are in the City or the West-end is so great, that the London contingent can never become very numerous until more suitable arrangements can be made. A gunboat of the 'Comet' class, moored off Somerset House, would afford the necessary facility, and would cost less than fitting up a wooden ship of larger tonnage. The gun-drills might take place on Saturday afternoons, when the Volunteers could conveniently attend.

We have now considered the Reserves of all classes which it is possible to raise on our shores. The naval resources of Great Britain are by no means limited to these islands. I have returned from a recent visit to our North American colonies with a feeling of regret that no attempt has been made to encourage the colonists to form Reserves among the hardy mariners who sail under the British flag in North American waters. We have not hesitated to enrol our coloured fellow-subjects in the land forces in many dependencies of the Crown; why should we not encourage the colonies to form a Naval Reserve for the defence of their own coast? In the Canadian Dominion and Newfoundland are 87,000 seamen and fishermen, of whom one-third belong to Newfoundland alone. The fishermen are compelled by the inclemency of the season and the closing of the navigation by ice to remain at home for a considerable portion of the winter. A gunboat might be stationed at St. John's, and another at Halifax, for the purpose of drilling the Colonial Reserves, gradually proceeding from harbour to harbour on the Atlantic coast in winter, and ascending the Gulf of St. Lawrence at the approach of spring. The local Reserve might be drilled in the slack season of the fishery, and before the navigation became completely open from the melting of

Reserves
in our
colonies

the ice. With some aid and encouragement from the mother country, it appears to be perfectly feasible, and most desirable, that the Canadian Dominion and the adjacent colonies should organise a force for the defence of their coasts. I throw the suggestion out for the consideration of the Government at home and the authorities in the colonies.

Inspecting
Staff of
Reserves

Lastly, the formation of an able staff of inspecting officers for the Reserve is essentially necessary to secure their efficiency. The Reserves, including the Coast Guard, now number not less than 20,000 men. The supreme command of such a force is worthy of the most distinguished admiral in the service. The commander-in-chief should be supported by a staff of officers, to whom should be assigned the command of the Reserves in the St. George's Channel and on the east coast of England. An admiral sent on an occasional tour of inspection is not a sufficient substitute for an officer specially devoted to the duty, and whose representations as to the requirements of the Reserve would receive an amount of attention at the Admiralty which could not be secured by any other means.

Value of
seamen
instructors

In urging the appointment of a staff of superintending officers, I do not undervalue for a moment the services of that admirable body of men, the seamen instructors in gunnery in the drill ships of the Reserve. It is impossible to speak too highly of their zeal, their intelligence, their discipline, and their consummate knowledge of the subject on which it is their duty to give instruction. Naval officers, judiciously selected, would exercise a higher influence over the *morale* of the Naval Reserve. The merchant seamen would feel themselves, in a larger sense than heretofore, an integral part of the Navy in England. They would be inspired by

its great traditions, and the confidence which they would acquire in the officers under whom they received their training would be an invaluable guarantee for their conduct and discipline, should they ever be called upon to serve in Her Majesty's fleets.

IV

OUR NAVAL RESERVE

SPEECH IN THE HOUSE OF COMMONS, APRIL 17, 1874

MR. BRASSEY said that in inviting the consideration of the House to the organisation of our Naval Reserves they need not approach the subject with any misgiving. There were now serving in British merchant vessels entering and leaving our home ports not less than 407,000 men, of whom by far the greater number were genuine sailors. This numerous array did not include seamen in British ships in the colonies and abroad which did not visit our home ports. With a maritime inscription extended as widely as in France, we could secure for the fleet a force of 700,000 men. Commodore Goodenough, in his speech at the United Service Institution last year, informed us that the numbers under the Naval Reserve Act of France were about 172,000. All these men were not fit for active service afloat; but for some years prior to the Franco-Prussian War the force of seamen afloat had been maintained at 15,000 men, with 7,000 in reserve in barracks. The men in reserve were double the number of those in active service, and would constitute a force of 65,000 men, from twenty to thirty-six years of age. The North German Empire possessed some 80,000 seafaring men. No large proportion of these men had served in the German Navy, but 5,000 seamen were embodied at present;

Naval
Reserve of
France

Germany

and, assuming that the Navy had double the strength of the force enrolled, we might take the German Naval Reserves at 15,000 men. The United States had no Naval Reserves, a deficiency more than once pointed out by the Secretary to their Navy in his annual report. The number of ships of the Russian Navy engaged in active cruising was too limited to afford the means of highly training a larger number of men as sailors, and the mercantile marine was comparatively insignificant. From this review we might safely conclude that we had only to organise with the completeness which marked the preparations of other Powers in order to make ourselves perfectly secure. Sir Frederick Grey had expressed an opinion that for our war Navy we should require 84,000 officers and men. Admiral Sherard Osborn, in his recent pamphlet, had recommended approximately the same numbers, and those estimates would not seem exaggerated when we took into view the extent of our commerce and the necessity of our being able to protect our colonial possessions. There seemed, therefore, no reason from the recent changes in naval warfare for going back from the recommendations of the Royal Commission of which Lord Cardwell was the chairman, that we should enrol 20,000 seamen in our Naval Reserve and establish a force of 10,000 fishermen for Coast Defence. It had been urged that the Naval Reserve was an unreliable force. This opinion was not shared by the officers, who had the best opportunities of forming a judgment. Sir Cooper Key's report of the 1,700 men of the Reserve embarked in the fleet for a month's cruise at Whitsuntide 1869 was decidedly favourable. It was much to be regretted such cruises were not more frequently repeated. The complaints we heard were not made for the first time.

Our own requirements

Lord Cardwell's Commission

Embarkation of Reserve in 1869

Quality of
seamen in
merchant
service

Before the repeal of the Navigation Laws in 1849, the incompetency of the officers and the want of discipline among seamen were the theme of constant complaints among shipowners. The present alleged deterioration was denied by Messrs. Gray and Hamilton, who, on behalf of the Board of Trade, visited the principal ports in the autumn of 1872. There was no general complaint among the owners of steamships. The Inman Company made it a rule to give no advance note, and to take only married men, if they could get them. That had proved to be an excellent rule. They never wanted men, and they had many in the service who had been with them fifteen years. In the Royal Navy it was found necessary to introduce the continuous service system. It might be said the profits of the trade were too small to allow of additional charges being placed upon the employers of seamen. In that case, the public must bear the charge by paying higher freights. The improvement in the seamen would have the happy effect of diminishing the loss of life and property at sea. The reduction in the premiums of insurance would compensate for the expenditure upon wages. Shipowners would derive no benefit from the intervention of the State in encouraging apprenticeships to the sea and subsidising training-ships so long as the wages of skilled workmen on shore remained higher than the wages of seamen. Even on board ship numbers of seamen were induced to serve as firemen, in order to earn a small additional wage. Many left the sea altogether, because their experience as sailors had given them an aptitude for employments on shore in which they earned better wages than they could command either in steamers or sailing vessels. Higher wages were paid in our own merchant service than in any other, except, perhaps, that of the United States.

Thus far the nations which had been the builders of ships had furnished seamen to man them ; and, as the United Kingdom enjoyed an undisputed pre-eminence as a shipbuilding country, we might be confident that our sailors could hold their own with the sailors of other nations. It was an obvious duty to amend our laws wherever they could be shown to be prejudicial to the sailor. It had been urged that the advance notes given to seamen on being shipped were directly one of the chief causes of the demoralisation of our sailors, and indirectly the cause of the loss of much property and many lives. The propriety of making the advance note illegal was under the consideration of the Commission. The seaman could not cash his advance note except at a heavy discount ; the money raised by the transaction was too often squandered in debauchery ; in many cases not a farthing was laid out in providing an outfit of clothes for the intended voyage. Seamen were the only class of labourers who received an advance of wages before any work was done. The allotment note, on the other hand, was most advantageous to seamen and their families, and should receive all possible encouragement from shipowners. It had been submitted that sailors' boarding-houses should be licensed and under inspection, and that no boarding-houses should be allowed in connection with beer-houses and public-houses. It was further urged that we should come to some understanding with foreign Powers as to the restraint of crimping in seaports abroad, and that it might be feasible to make crimping by a British subject on a British vessel in a foreign port penal. Might it not be possible, by consular convention, to insure to shipowners that agreements made by the seamen in this country should continue binding upon them in a foreign country ?

Reform of
merchant
shipping
laws

Shipmasters scarcely did their duty to each other in the mutual endeavour to obtain good crews. In the discharge-note it was a practice to endorse the seaman 'very good' when he deserved a totally different character. Even in the Reserve there were some bad bargains. Where any such existed they should be promptly weeded out. The retainers were so liberal that none but efficient and well-conducted men should be allowed to remain in the service. The terms for the enrolment of the Naval Reserve might be modified by fixing the retainer at 5*l.* on entry, and establishing various scales of pay to a *maximum* of 7*l.* The average cost might be higher than at present, but there would be a larger proportion of trained men. Recruiting for the Reserve had been checked by the increase in steamers. Those in the coasting trade were so short a time in port that the crews could not attend drill without losing their regular employment. Steamers were a bad school of seamanship, but there was still an ample fleet of sailing vessels to form a nursery for the Naval Reserve. It was much to be regretted that we had failed to keep up the Reserve to the standard recommended by the Royal Commission. Even if we had to incur a certain expenditure for such a purpose, the money would be well expended. It was the insurance fund of the nation. The Royal Commission recommended that the force should be composed of trained seamen, and it was to be recruited in the first instance from adults. As a temporary measure 20,000 men were to be enrolled from the merchant service. School ships were to be established, capable of accommodating from 100 to 200 boarders in each ship, of whom 100 were to be supported by the State. Two thousand four hundred boys would thus be supplied annually to the mercantile marine and the

Increase of
steamers
checks
entry of
Reserve

School
ships for
training
boys

Reserve. It was recommended that 40,000*l.* should be voted annually for the maintenance of the ships. No vote had ever been taken to carry into effect this recommendation, nor had any vote been taken to supply the place of the Naval Coast Volunteers. There were at present eleven training ships at different ports. In so far as they were to be regarded as training-vessels for the Reserve, all, except the 'Warspite,' were upon a wrong principle. Seven of the training-ships were intended to receive street-*arabs*. Under the Industrial Schools Act they had received a total subsidy of 11,870*l.* These ships could accommodate 1,900 boys. The actual number on board was 1,250. There were three reformatory ships; they could take 750 boys, the actual number being 647. They had received 8,906*l.* The Government, having only subsidised industrial schools or reformatories afloat, had done nothing to help poor but respectable parents to train their sons for the sea. He would suggest that, as an experiment, they should take over one of the ships stationed in the Thames and one in the Mersey; that the boys should be of the same class as those admitted into the training-ships of the Navy; and that the expense of the ships taken over should be met by a contribution in equal thirds from a special vote to be taken, as for educational purposes; by a contribution from the Mercantile Marine Fund; and by another from the Admiralty. The contribution from the Admiralty should be payable only on the completion of the training, and upon the boy's qualifications being tested by examination. It should be a further condition of the Admiralty grant that the boy should consent to serve in the Navy for one year. In each of the ships in the Thames and the Mersey there should be accommodation for 250 boys. He ventured to insist strongly

Reformatory
ships

Government
training-
ships for
boys

Encourage-
ment to
apprentice-
ship system

on the importance of passing through the Navy boys intended for the Reserve, because it was quite certain that mere drill without discipline would not prepare a young seaman for naval duties. He would make the age of admission 16 and the period of service in the training-ships two years. It had been proposed by several local Marine Boards that the Government should encourage apprenticeship to the sea, by offering a premium of 10% to every boy on completing an apprenticeship of four years, on production of a certificate of character and passing an examination in seamanship. It should be stipulated that all apprentices receiving premiums should serve a year in the Navy as ordinaries, receiving a further gratuity of 10% on leaving the Navy and passing into the Reserve. If they remained in the Reserve until 50 years of age, they should be entitled to the same pensions as seamen in the Navy. If a full Reserve could be formed from the boys thus trained, the necessity for the Reserve paid by annual retainers would, as Mr. W. S. Lindsay has pointed out, no longer exist. He need not again enlarge on the importance of forming a Reserve for coast defence among our 150,000 fishermen. It would be worth while to commission a few more gunboats, to be employed in visiting the fishing stations in the slack season of the fisheries, thus affording the fishermen the opportunity of learning their gun-drill without travelling to an impossible distance from their homes, and avoiding the necessity of keeping up several permanent drill batteries on shore, where there was often a most scanty attendance. The employment of a few gunboats on that service would increase the opportunities, so rare at present in the experience of naval officers, of becoming acquainted with our coasts. No more honorary commissions in the Naval Reserve should

Fishermen
for the
Reserve

be given, except to owners of yachts who succeeded in persuading all their men to join the Reserve. The white ensign might be used by any owner who could bring fifty men, *bond fide* yachtsmen, into the Reserve. The privilege of flying the white ensign should cease unless substitutes were found for any men in the original batch of fifty who withdrew from the Reserve. Cadetships in the Naval Reserve had been given to young gentlemen from the 'Conway' and 'Worcester.' That should be followed up by giving them a short course on board the 'Excellent.' The value of the Naval University at Greenwich would be immensely increased as a national institution when the officers of the merchant service were allowed to participate in all the advantages afforded. Lastly, he urged the appointment to the Reserve, at an early date, of a competent staff of officers with an admiral at their head. Until a recent date the Controller of the Coast Guard devoted a portion of his time to the Reserves. There was work for a considerable staff, if the duty of increasing the numbers and efficiency of the force was to be properly done. Without an officer of high rank and considerable influence at the head of the Reserve, its requirements would never be duly represented to the Admiralty. They wanted an admiral at the head, and at all the great ports a local representative of the Navy, who, by constant residence, would acquire influence over the seafaring population, who would induce them to join the Reserve and personally superintend their drills.

Privilege
to yachts
with Reserve
crews

Staff of
Reserve
Officers

V

*HOW BEST TO IMPROVE AND KEEP UP
THE SEAMEN OF THE COUNTRY*

PAPER READ AT THE ROYAL UNITED SERVICE INSTITUTION
ON FEBRUARY 18, 1876

It will be my object in the present paper to be practical. There has of late been too much vague declamation as to the decay of our British seamen. I do not therefore propose to dwell at length on the faults of our sailors : I shall prefer to occupy your time with proposals for ameliorating their condition, their character, and their seamanship.

Number of
foreigners
in British
ships

It will be convenient to clear the difficult path before us by stating the number of foreigners employed, and the annual waste of seamen in our merchant service. With regard to the number of foreigners employed under the British flag, while the proportion is, no doubt, considerable, the number does not increase. The proportion of foreigners to British seamen, which was 12·6 in 1864, was reduced to 10·87 in 1873. I may in this place observe that some of the ablest of our shipowners have entertained the opinion that foreigners are an indispensable element in our merchant service. To quote only one authority, this opinion was expressed by Mr. Lamport, in giving evidence before Mr. Lindsay's Committee in 1860. He was asked, 'What, in your opinion, would have been the present state of things, had the

Navigation Laws not been repealed?' He replied, 'I think there would have been more British tonnage afloat than there is now, but I do not think we should have been able to man our British ships with British sailors. The rate of wages must have been tremendous, in order to bring this about.'

It has been computed that, from various causes—death, drowning, desertion, the giving up of employment at sea in order to obtain occupation on shore—our mercantile marine loses every year about 16,000 men. The apprenticeship system supplies about 3,500 men per annum, and the training-ships probably as many more. The boys not apprenticed, and the ordinary seamen, supply the remaining 9,000 men. As a matter of fact, no great difficulty has been experienced in obtaining the number of men required for the merchant service. The quality may have been unsatisfactory; but the number has been adequate. Our shipowners have never experienced the difficulty which has been felt in Germany, where laden ships have been detained for weeks, because a crew could not be obtained.

Annual
loss of men
in mercan-
tile marine

In a recent communication to the 'Times,' Mr. Dunlop, a large shipowner of Glasgow, states that no shipowner finds any difficulty at the present time in manning his vessel; and that, if the number of seamen were materially increased, it could only produce a redundancy. Having shown that there is no reasonable ground for a complaint of a deficiency in point of number, we have now to consider the allegations as to the want of discipline and seamanship.

No difficulty
in manning
merchant
ships

It may be pointed out, *in limine*, that the same complaints have been urged before every Royal Commission and Committee of Parliament which has been appointed, since the termination of the great Continental

Complaints
of deteriora-
tion un-
founded

War, to inquire into maritime affairs. As on all similar occasions in the past, so in the latest inquiry by the Royal Commission on unseaworthy ships, witness after witness dilated on the profligacy, the drunkenness, the physical, the professional, and the moral deterioration of our seamen. The mercantile marine is acknowledged to be the true backbone of the fighting Navy ; and those who heard the gloomy story could scarcely suppress a misgiving that England had forfeited her claim to be the mistress of the seas. When, however, we turn over the page of history, we find that the crews even of our fighting vessels have often contained a large proportion of ill-conducted and unskilful men. Many seamen serving in the Royal Navy in the early years of the present century, unwilling captives of the press-gang, were equally destitute of patriotism and fidelity. It has been said that, on one occasion, when the fleet was being paid off at Portsmouth, a large number of the seamen refused to come on shore, and sailed direct to Brest to take service in the French Fleet. In the narrative of the capture of the British frigate 'Macedonia' by the American frigate 'United States,' the historian James gives some details which I shall venture to quote :

Desertions
from Royal
Navy

British
seamen in
American
ships

'The great proportion of British seamen among the crew of the American frigate accounted, it is said, for so many of her guns being named after British ships and some of the most celebrated naval victories. "Captain Carden," says Mr. Marshall, "observing 'Victory' painted on the ship's side over one port and 'Nelson' over another, asked Commodore Decatur the reason of so strange an anomaly ; he answered : 'The men belonging to those guns served many years with Lord Nelson, and in the "Victory." The crew of

the gun named Nelson were once bargemen to that great chief, and they claim the privilege of using his illustrious name in the way you have seen.' The Commodore also publicly declared to Captain Carden that there was not a seaman in his ship who had not served from five to twelve years in a British man-of-war."

Passing on to the inquiries by the Manning Committee in 1853, the advantages, if there were any, of compulsory apprenticeship should have been conspicuously shown in the high discipline of the mercantile marine at that period. What, however, was the language held by the shipowners in regard to their crews? It was most unfavourable. The chairman of the London Shipowners, Mr. Phillips, went so far as to declare that the seamen were a demoralised race, and that the permission to man British ships with foreign seamen would be productive of great good.

I am not attempting to deny that many of our merchant seamen are unworthy of the British flag; but when we are told that their condition is worse than it was, I ask for evidence in support of this unwelcome assertion. What new circumstances have arisen to injure the character of our seamen? Some influences there must have been working for their good. In part owing to the introduction of a test examination, our merchant ships are more ably commanded than they were. Our seamen are acknowledged to be a better educated body; the ships in which they sail are greatly improved in comfort, in safety, and in speed. In the old days there were no ships which could be compared with the noble iron clippers of the present day. On the other hand, we cannot fail to recognise the injurious tendency of some of the modern changes in the constitution of the merchant service. Steamers have drawn

Improve-
ment of
merchant
seamen

Best men in
steamers

away the best men from the foreign-going sailing ships. A higher rate of wages is paid in steamers, and they offer the further advantages of a shorter absence from, and a periodical return to, a home port ; with superior provisions, lighter work, and better accommodation. In the foreign trade the best men, as a consequence, have been separated from the mass employed in the sailing ships, and with a result analogous to that which followed in the French Army from the formation of an excessive number of *corps d'élite*, comprising the Imperial Guards, cavalry, and artillery. When the best recruits had been picked out for all those favoured corps, the residuum which remained to form the infantry of the line was destitute alike of physical vigour and of military ardour. Again, the growth of the large towns, which are the great entrepôts of our maritime commerce, has tended to the degradation of the seamen employed in the foreign trade. The temptations to vice multiply with the increasing density of the population ; in the smaller towns the atmosphere is less contaminated.

Proportion
of men to
tonnage

It is more difficult to draw any general conclusion as to the quality of seamen than it is to ascertain the proportion which the supply bears to the demand ; but there is one arithmetical test by which the efficiency of the crews can be partly determined, namely, by noting the increase or the reduction in the number of men employed to man a given tonnage. If this test be applied, it will be found that there is no evidence to show that there has been a deterioration in the quality of the seamen. In 1814, the merchant service gave employment to 173,000 men, or about the same number of men as in 1861. In the interval the tonnage of our shipping had increased from 2,681,000 tons, at the earlier date, to 5,895,000 tons at the later. The proportion of men to

100 tons in sailing ships was 4·17 in 1854, 3·25 in 1869, and 3·22 in 1873.

On the whole it would appear that, while our seamen have not deteriorated, yet the character and seamanship of a large number among them leaves much to be desired. In the coasting trade, however, there are no complaints. The vessels are manned by the owners or part owners and their families, just as they have been for many years past. Neither are there any general complaints on the part of owners of steamers. Mr. McIver, his partner, Mr. Burns, and Mr. Wilson, of Hull, when examined by the Duke of Somerset, spoke of their men in terms of commendation; and their opinion, backed by the officials of the Board of Trade, presented a cheering contrast to the gloomy picture drawn by the owners of sailing vessels.

Opinion
of ship-
owners

To what causes are we to ascribe these defects, and how can they be remedied? Among the causes I would enumerate: (1) The absence of encouragements or pecuniary reward for good conduct or skilful seamanship; (2) insufficiency of pay, at least until a very recent date, and, in some ships, bad treatment; (3) the system of payment in advance before sailing, and the delay in paying off crews on their arrival in port; (4) the want of systematic training for seamen; (5) the inadequate professional status of the officers of the merchant service.

Causes of
defects in
mercantile
marine

Taking these subjects in the order in which they have been enumerated, we have first to deal with the question of wages. The owners of sailing ships stand alone among the employers of this country in expressing a universal concurrence of opinion that their men are deteriorating. The explanation is not far to seek. Until a very recent period, the wages of seamen have been low by comparison with the reward of any description

Low wages
of seamen

of labour requiring the same skill and experience ashore. Looking back to the earlier dates included in the tables published by the Board of Trade, we find that the wages of an able seaman rarely exceeded 50s. a month; and when we take into view the many privations of a seaman's life, the inferiority of his situation to that of any other skilled labourer was such that, unless there had been some compensating circumstances, our ships could not have been manned. Two considerations have operated to keep down the wages of the seamen. The apprenticeship to the sea has been less expensive than the apprenticeship to any other skilled trade. 'The fact,' says Mr. Mill, 'that a course of instruction is required of even a low degree of costliness, or that the labourer must be maintained for a considerable time from other sources, suffices everywhere to exclude the great body of the labouring people from the possibility of such competition.' Boys, from the moment they go afloat, cease to be an expense to their parents; hence the poorest among the labouring class, who alas! form the majority, are able to bring up their sons to the sea.

A sailor's
vocation

Adam
Smith

Again, the employment of the sailor has been ill-paid, because it has been invested with all the charms which belong to an adventurous life. 'The dangers,' says Adam Smith, 'and hair-breadth escapes of a life of adventures, instead of disheartening young people, seem frequently to recommend a trade to them. A tender mother among the inferior ranks of the people is often afraid to send her son to a school at a seaport town, lest the sight of the ships and the conversation and adventures of the sailors should entice him to go to sea. The distant prospect of hazards from which we can hope to extricate ourselves by courage and address

is not disagreeable to us, and does not raise the wages of labour in any employment.'

In pointing out that in foreign-going sailing-ships generally, and especially in those which have been the property of men of limited capital, the wages have not been sufficient to attract good men into the employment, I do not imply that there has been a selfish unwillingness on the part of the shipowners to do justice to the seamen. I am simply pointing out that the conditions offered have been less attractive than those presented by other employments. Quite recently the wages of seamen have been advanced, doubtless in consequence of the competition for labour caused by the unprecedented activity of other branches of trade. It cannot now be said that the seaman is insufficiently rewarded. The rapid advance in the rate of pay which has lately taken place will in time produce its effect, and probably encourage a large number of the youth of this country to look for employment afloat. Seamen, however, cannot be made in a day. The benefits to be derived from the increased supply of trained men will not be realised until the boys who are now being attracted to the sea have had sufficient time to learn their business.

Advance
of wages

Bad treatment has been assigned as one of the reasons why, in some vessels, a difficulty has been experienced in regard to manning. Whenever it has been alleged that the scale of provisions in any ships in the merchant service is insufficient, universal indignation has been expressed by shipowners. In order, therefore, to prove that there is a foundation for what has been stated, I quote the following passage from the Report of Dr. Roe, Surgeon to the British Seamen's Hospital at Callao, in answer to a circular issued from the Board of Trade by Mr. Shaw-Lefevre: 'By far the greater

Treatment
afloat

Causes of
desertion

number of British vessels which visit this port are those which have made long voyages ; they have taken cargoes to some port in China, Australia, New Zealand, Brazil, the East Indies, or elsewhere, and they have come on here to load with guano, having been, on the average, upwards of a year in performing the voyage from England to Callao. Amongst the crews of these vessels desertions are very frequent, the principal causes being—

‘1. The physical condition of the seamen.

‘2. The fact that a considerable sum of money is due to each man on his arrival here.

‘3. The system prevailing at this port of paying three months’ wages in advance to each man who ships.

Prevalence
of scurvy

‘At the British hospital, in the four years commencing October 1, 1865, and ending September 30, 1869, 251 cases of scurvy were received from 57 vessels, 27 ships sending each but a single case, and 13 ships sending each nine cases and upwards. Official investigations were instituted into the circumstances attendant on the voyages of 13 of the vessels the crews of which were affected by scurvy, and our inquiries have established the inadequacy of this diet to maintain the health of seamen, even when supplemented by the anti-scorbutics enforced by the Merchant Shipping Act of 1867, as scurvy occurred in those vessels only in which the scale was adhered to.’

Anti-
scorbutics

The scale on page 123 will show the comparative values of different articles of food as anti-scorbutics.

Causes of
scurvy

The salt beef and salt pork constitute the main articles of a seaman’s food, and are supposed to represent an amount of nourishment which they are far from containing. Scurvy is essentially starvation. The histories of such cases as proved fatal on board the ships, and they were not a few, showed that those who

Powerful Anti-scorbutics	Indifferent Anti-scorbutics	Powerless as Anti-scorbutics
<ol style="list-style-type: none"> 1. Fresh juicy vegetables, as raw potatoes, onions, &c. 2. Fresh fruits, as oranges, apples. 3. Fruits and vegetables preserved in sugar, or otherwise, with their juices. 	<ol style="list-style-type: none"> 1. Dried vegetable matter, as preserved potatoes, compressed vegetables, &c. 2. Fresh or preserved meats, especially within the tropics. 3. Vinegar. Lime-juice as found on board merchant ships after 12 months' voyage. 	<ol style="list-style-type: none"> 1. Rice, barley, sago, arrowroot, &c.

laboured longest and hardest were the first to die. Officers, and others who were not required to use physical exertion, escaped the disease. One man was a prisoner and fed on bread and water during a voyage of upwards of ninety days; he took scarcely any exercise, and for a considerable portion of the time never moved from his cell; he arrived here in good health and without a trace of scurvy, whereas all his shipmates were more or less severely affected.

'The great majority of the cases of scurvy recorded above originated in vessels the crews of which were not allowed vegetables whilst the ships were in port. Let it be assumed that the expense of providing food better adapted to maintain the health of the men would be greater than the expense of providing food according to the scale now in use. The food supplied is but a part of the seamen's wages, part of the value paid for their services. If, therefore, more value be given to the seaman in food, less will be required in money; and no wages will be better appreciated by the seaman than good food.'

Better diet
required

I earnestly hope that all the suggestions contained in the letter of Dr. Roe may be adopted.

The advance
note con-
demned

The system of making advances of wages to seamen is a subject closely connected with the general question of the rate of pay. I cordially concur with the Royal Commission in their unhesitating condemnation of the advance note. Seamen are the only class of working men who are paid in advance for labour that has not been performed. It may be urged that it is hard to deny a small sum in advance to a man who is about to embark on a ten months' voyage. It may be said that he has an outfit to provide and expenses to pay for his board on shore while seeking an engagement. The answer is that, in ninety-nine cases out of a hundred, the money paid in advance is consumed in debauchery; that the man comes on board destitute of clothes, but minus the month's wages. He has discounted his advance note at a usurious rate of interest, and has probably been paid not in money, but in the most deleterious liquors. The crimp alone has derived a profit on the transaction. Some shipowners have strongly opposed the abolition of the advance note. They have been accustomed to rely on the co-operation of the crimp to get their men on board before sailing, and they apprehend that the abolition of the advance note will lead to a small rise of wages. For the reasons I have stated, I disagree with the objections to the reform proposed by the Royal Commission. Until seamen are taught to depend upon their past earnings, to be sufficiently careful of the large sums often received on paying off, so as to be able to provide therefrom the kit required for the next voyage, you cannot look for improvement in their moral character.

The delay in paying off is at least as fruitful of evil

as the payment of wages in advance. If a delay of forty-eight hours occurs after the arrival of a ship in dock, the seamen are necessarily thrown into the hands of the crimps. Sailors' homes have been established at the large ports, and they have done great good ; but the sailors' home bears a close resemblance to an embellished prison, and is not the genial and attractive hostel to which a sailor would naturally resort who has been cribbed, cabined, and confined under tight discipline for many months on board ship. Captain Dawson has enlarged in a recent paper in such sympathetic language on the necessity for an immediate settlement of wages after the arrival of a ship, that I need not insist further on this point.

I would offer one more suggestion connected with the question of wages which ought not to be omitted in a general review of this subject, although it is not within the province of legislation to remedy the evil which I seek to point out. It is a mistake in the merchant service to pay every seaman before the mast at the same rate. By preserving this unbroken uniformity, you avoid the risk of exciting envy and jealousy among the crew. On the other hand, you give no encouragement under such a system to special exertion and good conduct. You draw no distinction between efficiency and utter inexperience, between the genuine able seaman and the man who has no right to claim that rating. Piece-work is impossible on board ship, at least on board ships engaged in the foreign trade. On a coasting voyage, as, for example, in the colliers plying between the north-eastern ports and the Thames, the plan of paying by the run was universal ; but this arrangement is inapplicable to the Indian or the colonial trade. If, however, payment by results cannot be introduced, it becomes the

Evil of
delay in
paying off

Uniform
rate of pay
undesirable

more essential to encourage merit by a flow of promotion, and by advantages in point of pay. In the numerous ratings in the Royal Navy we have an example of what may be done in this direction. The regulations of the Navy in this and all other matters are well worthy of study by shipowners. They represent the traditions of an ancient service, and the thoughts of many ingenious and capable officers whose business it has been to maintain the discipline and to animate the exertions of numerous crews.

Examina-
tion for
rating of
A.B.

There should be a voluntary examination for the rating of A.B. The examination should be practical and interlocutory, similar to that which candidates for admission to the Naval Reserve are required to pass. Shipowners would know that men who could obtain a certificate of A.B. by examination, were not impostors; and captains ought to be allowed by their owners to give higher wages to certificated men. As soon as it became known that something was to be gained by passing an examination, every seaman would try to pass. It might then be expedient to require that a man should have passed the examination before he was allowed to ship as an able seaman. Several Seamen's Associations have petitioned to Parliament in favour of this proposal. Such a regulation would involve no hardship on the shipowner. He would be left perfectly free in the selection of his crew, and could ship as large or as small a proportion of A.B.'s as he thought fit.

Increase of
pay for good
conduct

Again, an increase of pay should be given for good conduct. This is done by Mr. Balfour and other shipowners of Liverpool, and Mr. Balfour, who was specially sent up to give evidence before the Commission as to the deterioration of seamen, admitted that the complaints which he poured forth so profusely did not

apply to the men who sailed in his ships. Would it not cost less, and would not the merchantmen be more efficiently manned, if higher wages were paid, fewer hands employed, and more care taken in the selection of the crew? It is a common practice with shipowners to defer the engagement of the crew until a day or two before their ships are ready to sail. The captain is then instructed to go down to the shipping office, and in an hour to collect together a crew for a voyage round the world from among a number of men whom he has never seen before. In what other trade can a parallel be quoted to this haphazard and perilous system? Would it be reasonable to expect that the skilled labour required for a shipbuilder's yard or an engineering works could be obtained at a moment's notice by sending out a foreman into the adjacent highway? In all well-organised industrial establishments it is the custom to keep together a nucleus of workmen; and this is done even in bad times, and when the payment of the men's wages is a heavy loss to the employer.

Here I would offer a remark on the desirability of more frequent and direct personal relations between the shipowners and their seamen. When shipowners complain that their seamen are not anxious to promote their employers' interests—that they show no gratitude for the care and the money which have been freely lavished to furnish them with good provisions, to make their forecables comfortable, and to supply them, it may be, with books and other advantages not included in the letter of the bond—it must be remembered that mere liberality will not suffice to arouse the sentiment of personal loyalty. A non-resident proprietor may let his land at low rents, and be more than liberal in the repairs of his cottages, and yet, unless he lives among

Relations
between
owners and
seamen

the people on his estate he will fail to keep up the warm and devoted attachment which, in feudal times and since, has so often united together the owner and the tillers of the soil.

I have dwelt on the question of wages. Except in the abolition of the advance note, and, perhaps, in requiring payment of a certain rate of interest for every day's delay in the settlement of wages after the arrival of the ship, the subject is beyond the scope of legislation. It is for the shipowners to consider the question, and by a wise generosity to encourage a good class of our working population to follow the sea.

Training
for the
merchant
service

It is now necessary to refer to the subject of training seamen for the merchant service. The abolition of compulsory apprenticeship has been deplored by many, and the alleged deterioration of seamen has been attributed to the relaxation of the laws by which it was enforced. We have, however, the testimony of the late Mr. Lamport and others to show that compulsory apprenticeship led to grave abuses. There is no reason why an ordinary seaman or boy should not pick up seamanship as well when serving in that capacity afloat as if he were regularly indentured. It is a fatal objection to the compulsory plan that boys who are worth anything are certain to break their indentures. Such, at least, has been the experience of the present training-ships. The Managing Committees have, therefore, determined not to ship any more boys as apprentices.

Difficulties
of supply

I now turn to another and a less impracticable plan for increasing the supply of seamen by the establishment of additional school ships. An artificial training system must, if it is to produce a radical improvement in the *personnel* of our vast merchant navy, be carried out on

a very extended scale. Now, if by such an extended training system you succeed in producing a large additional number of seamen, you introduce a disturbing element into the maritime labour-market, which must have the effect of depreciating the rate of wages. But it has been already shown that the wages of seamen have, until a recent date, been lower than those earned by any other class of skilled workmen ; and the inference has been drawn that the inferiority in the quality of seamen has been attributable to that cause. If, on the other hand, you limit the number of boys in training, in strict accordance with the requirements of the Naval Reserve—and the Liverpool shipowners, who are the warmest and ablest advocates of the training system, have never suggested that we should go further—then you will fail in producing any appreciable improvement in the efficiency and supply of seamen for the merchant service.

Having given most careful consideration to this question, and studied the various plans proposed from time to time, I have arrived at the conclusion that the scheme projected by the Manning Committee, and approved by Sir Frederick Grey, is the only practicable plan. Any scheme for a partial contribution by the Government and the shipowners would break down, because the majority of the shipowners will not contribute voluntarily, and you cannot in fairness extort a contribution under the compulsion of law. The only reliable source to which we can look for pecuniary aid in support of training-ships is the public purse ; and the State cannot be called upon to expend a sixpence more than it is necessary to lay out in order to provide for the wants of the public service.

The plan of the Manning Committee was, it is well

The
Manning
Committee
scheme
approved

System of
school ships

known, to establish ten school ships, distributed at the principal ports. Each ship was to be capable of receiving 200 boys, 100 of whom were to be nominated by the Admiralty and supported by the State ; the remaining 100 were to be day-boarders, who were to be maintained at the expense of their friends. The ships were to be moored to a quay, so as to give ready access to the shore. A commencement might be made upon the plan of the Commission by establishing a ship of the class described at a few of the principal ports. One or two might be established at Liverpool, another at Cardiff, another at Cork, another at Glasgow, and one in the Tyne. In each of these ships 100 boarders should be entered under

Training

an engagement to join the Naval Reserve. They should be trained, according to the plan of the Commission, for one year, on precisely the same system now adopted on board the 'St. Vincent.' At sixteen they should go to sea in the merchant service ; at twenty they should be required to join the Navy for a year, to be trained in gunnery, according to the plan sketched out by Captain Wilson in his recent lecture before this Institution. In each of the school ships there would be vacancies for 100 additional boys, who might be either boarders or day-boarders. The fees for the day-boarders might be paid by the Education Department. The boarders would be supported by the subscriptions of the merchants and shipowners, or by the contributions of wealthy and benevolent persons desirous of availing themselves of the facilities afforded by the Government on behalf of poor boys in whom they might feel an interest. The number of boys in training in the school ships at Portsmouth and Plymouth should be reduced, so that the aggregate number should not be increased by the establishment of the new training-ships at the com-

How
supported

mercial ports. If the plan succeeded, the number of naval school ships at the commercial ports might be gradually increased.

The recent destruction by fire of the 'Warspite' and the 'Goliath' has aroused the public interest in the training-ships. The gallantry and discipline exhibited by the youthful crews have been accepted as a proof that the training they receive is perfect in all respects. The belief has accordingly been gaining ground that the difficulty of manning the merchant service satisfactorily can be met by the multiplication of training-ships of the same class. In my judgment, there could not be a greater mistake ; and in that belief I am confirmed by Captain Wilson and by many other competent authorities, whose opinions I might quote if the time at my disposal permitted. Let us acknowledge with thankfulness the good work that is being done on board these charitable, industrial, or reformatory ships. I wish God speed to the benevolent men who have sought to rescue hundreds and thousands of little children from the vile associations in which they have been born, and to bring them up to an honest calling. But let us not suppose that the low morality of our forecastles, which has been so deeply, and, alas ! in too many cases so justly, deplored, can be raised by recruiting the merchant service from the pauper and criminal classes. We want to draw the great mass of our seamen from pure and untainted sources ; and if we wish that our honest and self-supporting artisans should send their sons to sea, we must give them some assurance that they will not be thrown among boys of another class, with whom they would be afraid to allow them to associate on shore.

Good effect
of ships
for boys

It has been already said that the training of seamen in school ships is, after all, an artificial system. The

Plan for
training
apprentices

open sea is the only true place for training men. Already the greatest difficulty is experienced in the Navy in finding ships for sending the boys trained by the Admiralty to sea. I, therefore, venture to suggest a plan for encouraging shipowners to take apprentices under an engagement, at the end of their apprenticeship, to serve for a year in the Navy in sea-going ships according to the plan of Sir Frederick Grey, or in barracks according to the plan of Captain Wilson. These Government-aided apprentices should not be entered until the age of 15. At 19 they would be out of their time, and they would be only 20 at the close of their year of service in the Navy. The following scale of bounty to shipowners and apprentices is suggested for discussion. It may be premised that the ships should be of a class adapted for instructing boys in seamanship, the number of boys limited in proportion to the tonnage, and the boys themselves approved by an officer representing the Admiralty. For every apprentice so selected the shipowners should receive at the end of the first year a bonus of 15*l.*, and a further bonus might be paid to the shipowner at the end of the second year of 5*l.* In the third year the apprentice should receive a gratuity of 5*l.*, which would supplement his wages and be an encouragement to him not to break his indentures. At the end of the fourth year, on joining the Navy, the apprentice should receive a further bonus of 10*l.* The total amount of these payments is 35*l.*—an insignificant sum in comparison with the cost of training a boy in the Navy from his enrolment until he becomes an able seaman. The seamen trained under this system would have been afloat in sea-going ships throughout their apprenticeship, and would

only require drill in gunnery in order to become valuable auxiliaries to the Royal Navy.

The consideration of the condition of our seamen would be imperfect without some allusion to the necessity of establishing a pension fund. In all the other leading maritime States, provision has been made for the maintenance of seamen in old age and in sickness. The most complete organisation for this purpose is to be found in France, where it was established by the great Colbert as a co-ordinate and essential part of his plan for compulsory service in the Navy. The institution has been maintained in its integrity to the present time. The subject received the most ample consideration from Lord Ellenborough's commission, who most strongly recommended the establishment of a compulsory self-supporting Seamen's Pension Fund. The subject has been incidentally examined by the Manning Commission and Mr. Lindsay's Committee, and the proposals of Lord Ellenborough have received their warmest approbation. It has been calculated that a payment of 1*l.* a year, commencing at the age of 14, would provide a pension of 12*l.* a year at the age of 50, of 15*l.* at the age of 52, and of 18*l.* a year at the age of 55. In this calculation allowance is made for a considerable number of seceders. The Government possess in the numerous shipping offices the clerical staff necessary for carrying out the recommendations which have so often been made in favour of a Seamen's Pension Fund.

While I trust that some if not all the suggestions contained in this paper may be approved by the ship-owners and the legislature, and produce their anticipated fruits in the amelioration of the condition of our seamen, I am well aware that it is in vain to expect, by any plans for their improvement, that we can

Seamen's
Pension
Fund

Difficult to
counteract
evil in-
fluences

neutralise entirely the evil influences under which our seamen, from the nature of their calling, are compelled to live. The sailor boy must quit his home at a tender age, and must pass his youth amid the temptations to be found in every seaport. How much of whatever there is of good in human nature—frail it must be at the best—is derived from home influences.

‘We love the precepts for the teacher’s sake.’

In proportion as we value these blessings for ourselves, we shall sympathise with the sailor in his moral and social privations, and rejoice that among his class there are to be found so many who have escaped the contaminating influences to which they are exposed.

Officers of
merchant
service

Having dealt with the case of seamen, I turn to the officers of the merchant service. The Duke of Somerset’s Commission, following the unanimous opinion of the witnesses whom they had examined, spoke in highly favourable terms of the officers of the merchant service. They said that the Board of Trade examinations had exercised a beneficial influence in raising the standard of education and attainment in the art of navigation, and that the improvement among the officers offered a bright contrast to the deterioration among the seamen. None will be found to dispute the general truth of these conclusions. There is reason, however, to believe that in the nautical profession many may yet be found equally unworthy in character and in knowledge to occupy the important position of a ship-master. Several members of the consular body, in their replies to the letter of inquiry in 1872, adverted to the deficiencies of the British ship-masters, and to their bad conduct on shore. Mr. Gould, in his report on the British maritime service in the Baltic, gives some figures which show that

British shipping is being gradually displaced by the Swedes and Norwegians, and he attributes their superiority in the race, not, as it might have been expected from the general tone of the shipowners, to the faults of the seamen, but rather to the inferiority of our ship-masters. Mr. Gould specially refers to the utter ignorance of foreign languages displayed by the English, in marked contrast with the German and Scandinavian officers, all of whom have received a good commercial education and speak English and probably other languages in addition. Several of the consuls allude to the insufficiency of the salaries given to officers of the merchant service. Unquestionably ship-masters are underpaid, as compared with persons of equal responsibility on shore ; but the remedy lies with the parties to the bargain. The legislature cannot interfere, and public opinion cannot do much. It is certain that there is immense competition among the more educated men before the mast for promotion to the quarter-deck ; and the shipowner has a perfect right to take advantage of any turn of the market in his favour, provided always that the officers employed are equal to their work. In our own day, as in all former times, the officers of the merchant service have been a mixed and various body, including many gentlemen of high bearing and education, and, at the lower end of the scale, no inconsiderable number who possess none of the qualifications necessary even for the most modest command. It is, indeed, unnecessary to insist on the same standard of excellence in all cases. The value of the ship and of the cargo, and the extent and difficulty of the voyage, must be taken into consideration by the shipowner in determining the amount of salary which he must give, and the qualifications which he will require in the

Defective
education
of masters

Insufficient
pay of
officers

commander of his ship. Every commander in the merchant service cannot be highly paid, but many are not so liberally rewarded as they ought to be. The illiberality of certain shipowners was severely criticised by Captain Toynbee, in his speech at the Society of Arts in their last session, when he referred to ships of 800 tons in the East India trade where the masters were receiving only 10*l.* a month. Even in the best employment, every officer below the rank of master is badly paid. The expectation of promotion is an inducement to subordinates to serve for years on a small pittance of from 4*l.* to 7*l.* a month, considerably less, in short, than the wages of the carpenter or boatswain who are working under their orders.

Board of
Trade
certificates

Allowing that the Government cannot do very much to elevate the professional status of the officers of the merchant service, and that it can do nothing to increase their rate of pay, I venture to make one or two suggestions which I should be glad to see adopted by the departments concerned. The Board of Trade may raise the status and improve the qualifications of the merchant officers by enlarging the scope of their examinations, and by giving a certificate of a superior grade to officers who could pass in one or more languages, in which a certain colloquial facility should be required. To these acquirements commercial subjects, including, for example, the theory of foreign exchanges and the elements of commercial law, might be added with advantage. If the good results which I venture to anticipate were to follow from the encouragement thus afforded to a wider range of study, the Board of Trade might be justified in making the higher certificates, which at first should be the reward of those who passed

a voluntary examination, a necessary qualification for the command of any ship exceeding a certain tonnage.

The Admiralty might co-operate in this important work, and render a great service to the country, by requiring all officers, before they receive commissions in the Reserve, to serve on probation for a year in the Royal Navy. Here, again, I am only repeating a proposal already made by Captain Wilson. The advantages of such a regulation ought to be mutual. The mercantile officers would become in some degree familiar with the duties they would be called upon to perform in time of war, and the Admiralty would have an opportunity of testing the qualifications of candidates before giving them commissions. In future all officers, before they enter the Reserve, should be required to go through a three months' course of gunnery at Portsmouth; they should receive adequate pay while so employed, and if they failed to make reasonable progress should be dismissed from the Reserve.

Admiralty
qualification
for Reserve

It would be an encouragement to nautical study, and a graceful recognition of the merchant service, if a few studentships were founded at the Naval University at Greenwich, which should be opened to competition by all officers after four years' service at sea as mate or master of a merchant-ship. They should be tenable for one year, and should be of sufficient annual value to cover the necessary expenses of the student, and to give him in addition a sum equivalent to the income which he would have earned if he had been following his profession. I assume that each of the studentships would cost the Government about 120*l.* a year. Five might be offered in the first instance, one of which should be reserved for Scotland, and another for Ireland; and the number might be increased if the experiment proved a

Greenwich
open to
mercantile
marine

success. The good example of the Government might probably find imitators among the merchant princes and shipowners, who would found nautical studentships just as fellowships were founded by pious and benevolent men in ancient times at Oxford and Cambridge.

A closer
union
between
Navy and
merchant
service

Many difficulties in the way of carrying out suggestions may present themselves to the minds of naval officers, even though they are sincerely disposed to welcome as comrades and messmates the representatives of the mercantile marine. Something, however, must be done to make the resources of our maritime trade in men and ships available for the emergency of war. The maritime armaments of the great continental Powers have been developed in such vast proportions, that it is only by the development of our naval strength that our country can maintain her claim to rank as a first-rate Power. It should, therefore, be the aim of our naval administrators to create a thoroughly reliable Reserve in the merchant service. The officers and the men of the Reserve must be made sailors in the maritime trade of the country, and they must be trained to the use of arms in the Navy. Once more, if it be true that the condition of the merchant service is not in all respects satisfactory; if you want to raise the tone and the professional standing of the merchant officers, and to improve the seamanship and to raise the character of their crews, a closer intercourse with the accomplished and high-spirited officers and well-disciplined seamen of the sister service will prove the most effectual means of accomplishing the end in view.

VI

*GREENWICH HOSPITAL FUNDS AND
PENSIONS*

SPEECH IN HOUSE OF COMMONS, AUGUST 1, 1881

SIR T. BRASSEY said that the honourable member for Sunderland had made a persuasive appeal on behalf of the aged seamen. In much that he had said he concurred. Some years ago he had brought forward a proposal in that House for a seamen's benefit fund, to be managed by the officials of the shipping offices. He still cherished the hope that the merchant seamen might receive some assistance in their efforts to combine for their mutual support in advancing years. It was not an essential feature of the plan for a merchant seamen's fund that the State should make a contribution of money. Whatever might be the decision on this point, it was his duty to resist any proposal to take money from Greenwich funds. Before submitting a short statement of the leading facts, there was one obvious remark which he might offer. His honourable friend would acknowledge that the injustice of which he complained was not due to any action which had been taken by the present Admiralty. Similar demands had been steadily resisted by successive Boards, who were under strong temptations to become popular at the public expense by lavish charities to the merchant seamen. The unanimity of their decisions was, in his judgment, conclusive. The present Government, however, in their anxious desire to

A seamen's
benefit fund

Assistance
from
Greenwich
funds

Object for
which
Greenwich
Hospital
was founded

be just, had once more consulted the experienced officers of the Board of Trade and the Admiralty under whom the pensions to seamen and the funds of Greenwich Hospital were administered. The papers containing the correspondence with the Board of Trade would be distributed in a few days. The constituents of his honourable friend would doubtless be supplied with copies of the papers, and when they had read them they would be convinced that they had no claim whatever to further assistance from Greenwich. Without entering too minutely into details, he might observe that the relief of seamen who had served in the Royal Navy was the exclusive object of the noble foundation of William and Mary. That object was steadily kept in view both in the Act of 1696, under which the seamen of the merchant service were required to pay 6*d.* a month to Greenwich, and again in the Act of 1834, under which they were relieved from the obligation. The protection afforded by the Navy to the commerce of the country was held to be a sufficient justification for imposing a tax on the merchant service. Passing from the original object for which the hospital was founded to the subsequent efforts of the State to administer to the wants of the merchant service, he might refer to the onerous obligation undertaken in connection with the Merchant Seamen's Fund. The management was unsatisfactory, and in 1851 the fund was wound up by Act of Parliament. Pensions were granted at the average rates of the preceding five years, and the Exchequer was made responsible for any deficiency which might arise. The net result had been a loss of no less than 920,000*l.* Notwithstanding the losses sustained in connection with their fund, a generous gift was made to the merchant seamen on the occasion of the closing of

Greenwich Hospital as an asylum for the Royal Navy. By the Greenwich Hospital Act of 1869, power was taken to expend 4,000*l.* a year in providing pensions at the rate of 3*l.* 8*s.* to seamen who had contributed 6*d.* a month to Greenwich Hospital for five years prior to 1835, and who were not in receipt of a pension from the Merchant Seamen's Fund. In making this concession the Admiralty were doing an act of grace, and they distinctly declined to acknowledge any legal liability. In 1872 a further concession was made. The annual expenditure from Greenwich funds was no longer limited to 4,000*l.* a year, and an Act was passed authorising the purchase of annuities by the Board of Trade out of funds provided by Greenwich Hospital for all seamen who could prove a claim to pension under the regulations laid down in 1869. The charge which had come on Greenwich Hospital in providing pensions and annuities under the Acts of 1869 and 1872 had already amounted to 158,000*l.*, and it was contemplated that a further sum of from 40,000*l.* to 50,000*l.* would be required. The regulations under which the pensions were granted had been made the subject of complaint. It had been argued that seamen who were in receipt of pensions from the Mercantile Marine Fund, ought not to be debarred from the enjoyment of pensions from Greenwich Hospital. In November last the Admiralty addressed a letter to the Board of Trade asking them, as the official protectors of the merchant seamen, how far the sum of 3*l.* 8*s.* per annum, whether paid in the shape of a Greenwich pension or a Merchant Seamen's Fund pension, was a sufficient equivalent for the enforced contribution of 1*s.* a month. In reply, they were told that the sum now paid was in excess of the value of the enforced contribution with interest. The honourable

Compensation when Greenwich Hospital was abolished

All just
demands
satisfied

member for Sunderland was not content to urge the claims of the seamen themselves, and he asked that pensions should be extended to widows. The demand could not be presented to Parliament as a matter of right and justice. If, on the other hand, the cause of the widows were pleaded as a case for the charitable consideration of the Government, he had already shown that there were other resources directly arising from the mercantile marine from which, if they thought it right to make a concession, an appropriation might be made. The pensions from the Mercantile Marine Fund and the grants from the Greenwich funds, so far from being an inadequate return for the contributions, had already involved a loss to the State of more than 1,100,000*l*. Having dealt thus far with the case of the seamen as founded on their individual contributions, he passed on to the claims put forward on their behalf as heirs to former generations of contributors. It had been maintained in several petitions that not less than 2,000,000*l*. of the accumulated funds of the hospital had been derived from the enforced contributions of merchant seamen. The statement was incorrect. The personal property of Greenwich Hospital was mainly derived from other sources, from unclaimed prize-money assigned to the institution in the reign of Queen Anne, and from the prize-money of deserters made over to the hospital in the reign of George II. It included a percentage of 5 per cent. on all prizes taken during the great war. The sale of portions of the Derwentwater estates, which were appropriated to the hospital in the reign of George II., had been another source whence the personal property had been accumulated. But of all these sources of wealth, the most important was the transfer, in 1814, of the funds of the Chatham Chest,

Greenwich
Hospital
funds,
whence
derived

amounting to 1,355,000*l.* The Chatham Chest was originally established in the reign of Queen Elizabeth, and the revenues were derived from Parliamentary grants, charitable bequests, prize-money, and a tax of 6*d.* per month levied on seamen serving in the Navy. Having shown that the merchant seamen have no claim, whether in law or in equity, to further contributions from Greenwich Hospital, it might not seem necessary to carry forward this discussion. It might, however, be satisfactory to the House to know the numerous and benevolent uses to which the funds of the hospital were devoted. Its whole revenues were bestowed in ministering to the necessities of men who had done long service to the country. Out of a total income of 161,000*l.*, no less than 120,000*l.* were expended in pensions and gratuities. In addition to this, they were educating 1,000 boys, the sons of seamen and marines. They were doing this at a cost below the average in similar institutions. It had been objected that too large a sum was expended in salaries. To this he had to answer that the school was completely reorganised in 1870 by a committee, of which the present Secretary to the Admiralty was the chairman. Although the establishment was thus recently revised, they had thought it right to appoint a committee, which was on the point of reporting the result of its inquiries. He had reason to know that the work undertaken by Admiral Hickley and his colleagues, the member for Falmouth and Sir Digby Murray, had been thoroughly done, and that it would result in valuable improvements in the dietary of the school, and in the training of the boys for the sea service. Where an increase of expenditure was required, they would be able to meet the cost by economy in other directions. In conclusion, he had to express the hope that his

How the
funds are
now utilised

Benefits of
the esta-
blishment

honourable friend would be satisfied with the explanations he had received. He had done his duty to those whose cause he had advocated by stating their case in Parliament. It had been his (Sir T. Brassey's) duty, on behalf of the Navy, to show that the cost of the benevolent plan of his honourable friend could not in justice be made a charge upon Greenwich funds. Honourable members would believe that it was not an agreeable duty to resist an appeal on behalf of aged and perhaps necessitous persons belonging to a class with which he had a warm sympathy. In following his hazardous calling, the merchant seaman did a duty to society and to the State, and he had a strong claim to our benevolence. The seamen of the Navy might be called upon at any moment for yet greater sacrifices. Even in peace, grave disasters might occur, bringing misery to many homes. The present Board of Admiralty were anxious to make more ample provision for these distressing calamities, and if they permitted an unjustifiable encroachment on the limited resources of Greenwich Hospital, they would deprive themselves of the means of giving relief to seamen who had grown old in the service of their country, and to the widows and orphans of their comrades who had fallen at the post of duty.

VII

THE NAVAL RESERVES

SPEECH IN HOUSE OF COMMONS, MARCH 15, 1883

SIR T. BRASSEY said that the report of His Royal Highness the Superintendent of Naval Reserves was an important paper, and he was glad that his honourable friend the member for Sunderland had called the attention of the House to its contents. Among many valuable suggestions, perhaps the most important was that relating to the future strength of the Reserve. His Royal Highness recommended that the Reserve should be raised to 20,000, consisting of an equal number of men in the first and second class. This proposal had been adopted by the Admiralty. For the general purposes of manning the fleet, and especially for the smaller vessels, the hardy fishermen who formed the Second Class Reserve were thoroughly efficient. If men were called out for active service it would not cause the inconvenience to the shipping trade which might be felt by the withdrawal of the First Class Reserves, who might be called the leading seamen of the mercantile marine.

Recommen-
dations of
the Duke of
Edinburgh

Drill batteries had been long established at points selected for the convenience of the fishermen, including the Shetlands, Wick, Peterhead, Brixham, Falmouth, Penzance and Stornoway. He had announced last year that additional batteries were ordered for Kirkwall and

Drill
batteries on
the coast

Increase of
fishermen

the Isle of Man, and the question of a battery at Grimsby was under consideration. No difficulty would be experienced in increasing the Second Class Reserve from the present strength of 6,000 to 10,000, and twice that number of suitable men could be raised if necessary. According to the statistics recently published by the Commission on the fisheries, the men constantly employed numbered 56,000; those occasionally employed, 38,675. The increase in the fisheries—all the men being British subjects—compensated in some degree for the gradual reduction in the British seamen engaged in the foreign trade. It was interesting to remark that, while the development of steam had reduced the number of seamen in the foreign trade, the extension of railways had greatly stimulated the fisheries by the facilities afforded for a distribution of fish to the inland markets. At the port of Hull the number of smacks had increased from 40 in 1845 to 420 in 1881. At Grimsby they had increased from 70 in 1863 to 625 in 1881.

The First
Class
Reserve

The present number of the First Class Reserve was 11,316. The reduction to 10,000 would be effected gradually by raising the standard of qualification. If it were necessary, no difficulty would be experienced in maintaining the First Class Reserve at its former strength. It was true that the percentage of foreign seamen had increased from 18,000, or 9·74 per cent., in 1871, to 14·6 per cent. at the date of the latest return, and the increase of traffic through the Suez Canal would necessarily tend to bring more foreigners into the British mercantile marine; but in the stormy seas of Northern Europe, and for colonial voyages, English seamen would still form the majority of the crews. Throughout the mercantile marine they were always to be found in positions of responsibility.

In the opinion of the Marine Department of the Board of Trade, as of the Liverpool shipowners whom he quoted last year, there was no evidence of deterioration in our seamen. With reference to the availability of the Naval Reserve on a sudden emergency, the increase of steam navigation had had a marked and favourable effect in shortening the periods of absence from the home ports. In the First Class Reserve only 207 men had obtained leave to engage for long voyages.

No evidence
of deteriora-
tion

Before passing from the subject of the Reserve, he desired to refer to the question of rank. Masters holding responsible positions in the merchant service could not undertake active duty in connection with the Reserve, and no commission had hitherto been given for a higher rank than that of lieutenant. It was proposed, however, to recognise the recent services of the mercantile marine in the Egyptian campaign by making a certain number of promotions to the rank of commander.

Commissions
for masters

The honourable member for Sunderland had referred to some other suggestions of His Royal Highness which the Admiralty were not prepared to adopt. It was not thought expedient to complete the crews of the Reserve ships. The disposable men in the home ports were usefully employed in gun drill and in fitting out ships for commission, and they were constantly being drafted to sea-going ships. For the annual cruise of the Reserve Squadron the crews were completed, as his honourable friend was well aware, from the Coast Guard, whose efficiency must be maintained by occasional service at sea. With regard to the manning of the cutters, a proposal was under consideration to replace them to some extent with gunboats. By this means the duties of the Coast Guard would be more efficiently performed. The vessels would be of a class to which the seamen of the Navy

Crews of
reserve ships

Cutters to
be replaced
by gunboats

were accustomed, and a valuable opportunity would be afforded to our younger officers to gain experience in pilotage and to become acquainted with the coasts of the United Kingdom. As to the practice of the Naval Reserve at a floating target, its necessity was admitted, and the withdrawal of gunboats from the coast of Ireland would enable us to make better provision for this service.

Royal Naval
Artillery
Volunteers

Referring to the observations of his honourable friend the member for Carnarvon, he was aware that considerable disappointment had been felt in certain quarters at the hesitation of the Admiralty to give a capitation grant to the Royal Naval Artillery Volunteers. Having been closely connected with this force from the commencement, he was naturally anxious to see it established on a permanent basis ; but this object could only be attained by giving proof of its efficiency for some defined purpose and by minimising the cost. The first promoters of the movement were well aware that the training of the Naval Volunteers would entail a large expense for the drills on shore and the exercises afloat, and on this ground, in tendering their services to the Admiralty, they specially insisted on their willingness to dispense with the capitation grant. As compared with the land Volunteers, the Naval Volunteers were relieved of all expenses except the cost of uniform. They were drilled in the ships or batteries provided by the Naval Reserve, while the land Volunteers were called upon to bear considerable expenses for drill-sheds. Highly favourable reports had been received of the conduct and efficiency of the Naval Volunteers, both ashore and afloat ; but as yet no defined place had been assigned to them in the general scheme for the manning of the Navy. His Royal Highness proposed that they

Good con-
duct and
efficiency

should take the place of the Coast Guard, but that could be done with equal efficiency by men who had not been trained as naval gunners. With these considerations in view, the Admiralty were not prepared to entertain the demand for a capitation grant. He was, however, able to give a satisfactory assurance on a point to which he believed the Naval Volunteers attached even more importance, and he was able to announce that a suitable vessel would this year be appropriated for the annual cruise.

The marked success of the Coastguard Life Insurance Fund formed an interesting feature in the Duke of Edinburgh's report, and the success with which the scheme had been carried into effect reflected the greatest credit on His Royal Highness. The benefits accorded to the contributors were on a more liberal scale than those usually given. The management was in the Reserve office, and there was only one paid official. The Admiralty had not lost sight of the proposal to extend the scheme to the service afloat. Having last year given in detail the number of men in reserve for manning the Navy, it was unnecessary that he should recapitulate figures which had not materially changed in the interval. They had an ample force to meet any emergency which might arise.

Coastguard
Life Insurance
Fund

VIII

*THE ROYAL NAVAL RESERVE AND
ARTILLERY VOLUNTEERS*

SPEECH IN THE HOUSE OF LORDS, JULY 4, 1890

LORD BRASSEY rose to call attention to the Royal Naval Reserve and Artillery Volunteers, and to ask whether officers, seamen, and stokers of the Reserve would be embarked in the fleet during the forthcoming manœuvres. The Royal Naval Reserve was an essential element of the naval force of the country. It was impossible to maintain in peace all the men required for the Navy in time of war. There must be a Reserve both of officers and seamen in the merchant service. He desired to press on the Admiralty the necessity of making the lieutenants' list of the Royal Naval Reserve thoroughly efficient. Officers should not be retained on the active lists after they were too old to serve afloat in a junior rank. All lieutenants on the active list of the Reserve should be periodically embarked in the fleet, or, if not sent to sea going ships, they should be called upon to pass through a short course of gunnery on the 'Excellent' or the 'Cambridge.'

In the mobilisation of last year 3,000 stokers were required. In point of numbers the Reserves in the ports were equal to the demand; but many inexperienced men were embarked, and a severe strain was thrown upon the officers responsible for the effective

Necessary
to make
Naval
Reserve
efficient

working of the machinery of Her Majesty's ships engaged in the manœuvres. Every year reserve stokers should be called out for duty during the annual mobilisation. The arrangements for calling out stokers of the Reserves should be worked out in consultation with leading shipowners. It was very desirable to secure for the young engineer officers of the Navy more opportunities for gaining experience in running powerful machinery at high speeds and for long distances in all states of weather. A plan should be concerted with the owners of the finest steamers in the mercantile marine by which the young engineers and stokers entered for the Navy might be enabled to serve in their ships for limited periods.

Training
of stokers

He desired to ask the Government whether it would not be possible that some men from the Reserve should be called out on the occasion of the mobilisation of the fleet. A short service in the Navy occasionally would be valuable to the Reserve men both as a training and as a reminder of the obligations they had taken to serve when called upon. It would enable the Admiralty to gauge the general efficiency, and to make improvements at weak points.

Advantage
of calling
out Reserve
for man-
œuvres

The Royal Naval Artillery Volunteers were first called into existence when Mr. Goschen was at the Admiralty, and in answer to his appeals to local patriotism both in London and Liverpool. All the admirals who in succession had held the appointment now so ably filled by Sir George Tryon had reported favourably on the force. Patriotic feeling had not been wanting, and it was no exaggeration to say that the force might have been raised last year to 5,000 men. All offers of services were refused by the Admiralty, and mainly, it was assumed, because no scheme had

Use of
Royal Naval
Artillery
Volunteers

Reorganised
as marine
artillery
advocated

been matured for utilising in any effective way the services of the Volunteers. The consequence was that the force barely held its own, and now stood at less than 2,000 men. In many ways the Volunteers might be valuable. They could relieve the Coast Guard in the duty of watching the coast and transmitting information. They could help to man the coast defence vessels, whose crews would be wanted in time of war to make good the wastage in our sea-going battle-ships and cruisers. Many of the Volunteers could do duty as gunners in a sea-going ironclad. The Naval Volunteers should be reorganised and placed on a permanent footing as a corps of marine artillery. Hitherto the Volunteers had taken a pride in considering themselves a reserve to the seamen gunners of the Navy. The changes he suggested might deprive the present force of some of its most enthusiastic members. It was possible to concede too much to sentiment. In an earlier period of the Session he had placed on the paper a notice of motion with reference to the Colonial Naval Reserve. On reflection, it seemed undesirable to press the Admiralty to take any initial steps. It was, however, most desirable that the colonial Governments should take action themselves, as it might be intimated through the proper channels that the Admiralty were ready to render help whenever it was sought. He begged to ask the question of which he had given notice.

IX

THE ROYAL NAVAL ARTILLERY VOLUNTEERS¹

SPEECH BY MR. GOSCHEN, M.P., FIRST LORD OF THE
ADMIRALTY, DECEMBER 1873

ON Monday evening, at a banquet at Willis's Rooms to inaugurate the above-named institution, Mr. Goschen, M.P., in proposing the principal toast, said they wished to see whether, through the example of the London and Liverpool Naval Volunteers, it was not possible to light the fire of emulation and enthusiasm in other parts of the country. He thought there were few people in England who did not take some degree of interest in that movement. Admiral Tarleton had mentioned the circumstances which helped to originate the movement. He (Mr. Goschen) wished that there should be no misunderstanding on one part of that question. He thought the great majority of Englishmen would never admit that the first or the most likely duty that the English Navy would have to perform in time of war would be the defence of our own shores. That was what he understood to be a remote and an unlikely duty, because as the first maritime nation in the world, as the nation which possessed the first Navy in the world, we should not be doing our duty if we looked to the protection of

First duty of
English
Navy

¹ This speech is inserted as showing the view taken and encouragement given by the naval authorities when this force—recently disbanded—was organised twenty years ago.—ED.

Defence of
ports and
harbours

Royal Naval
Reserve

our own coasts so much as to the carrying of the war to the coasts of every enemy that might attack us. And for that reason, successive Boards of Admiralty had never been as keen in applying the funds—which the munificence of the country had placed at their disposal—for the defence of our estuaries and ports as in providing ships which might in every quarter of the globe assert that naval supremacy which we had always prided ourselves on maintaining. No doubt, in order to meet the possibility of surprise from steam and other inventions, it had become more incumbent upon the Admiralty to look to the defence of the ports and harbours than it was in past times; but still he maintained that that was not their first duty, because he hoped it would be a long time before any foreign foe could force his way into such places. It could not, however, be denied that serious panics might arise among wealthy merchants, shipowners, and others from not seeing a sufficient number of men-of-war at hand for the purpose of protection, and hence it had been thought desirable to establish the Royal Naval Reserve—a most valuable force, composed chiefly of sailors who would be ready to put to sea in time of war, and to go to any part of the globe where their services might be required. The Admiralty had also thought it their duty to deal with another class, who seemed a most promising element in the national defences—the fishermen and those engaged in similar pursuits to theirs around our coasts. They had now enrolled a second class of Naval Reserve, who were Volunteers in the stricter sense of the word, and although these were formed only a year ago, they already numbered nearly 1,000 men, and were rapidly increasing. But, apart from the regular forces, apart from the blue-jackets, and from the reserves connected with the sea-

faring population of the coasts, they desired and they expected to see the increase of the new force which had been started under the auspices of Mr. Brassey and other gentlemen, under the name of 'The Royal Naval Artillery Volunteers.' It could not be denied that the Army had had the start of the Navy as regarded Volunteers; but he trusted that the result of the meeting that evening would be that this new force connected with the Navy would enter into successful rivalry with the Volunteer force connected with the sister service. The Naval Volunteers would, no doubt, have greater difficulties to contend with than their competitors, because for the most part service afloat was more arduous than service ashore; but it was desirable that it should be understood that it was not necessary for the Naval Volunteers to have superlatively good sea-legs. They would rather be required to serve as volunteers in estuaries and forts than in any other capacity; and if they were trained to be efficient artillerymen there would thus have been added so much to the offensive and defensive forces of the country. The first thing to be aimed at was to train men to fight with heavy naval guns, whether in gunboats or on shore. It was not to be expected that Volunteers would be able to go to sea, or to man gunboats at sea in time of war, but a certain number of Volunteers had already cruised at sea, and naval officers who had seen them at work had reported that they displayed energy and ability in performing their duties, and that they roughed it with sailors in a manner which tended to inspire confidence in them in future. Mr. Brassey would tell them that drilling with heavy naval guns was a task by no means beyond the ability of a man with good health and a fair amount of physical vigour to accomplish. The drills were not ex-

'The Royal
Naval
Artillery
Volunteers'

An addition
to the naval
forces of the
country

Necessary
qualifica-
tions for the
Volunteers

cessive ; what was desirable was that the Volunteers should be able to fight guns, that they should have a certain amount of discipline, and that they should form a Reserve which would always be ready in time of need. He must say that, personally, he attached the greatest importance to that organisation. It was not merely that that movement would add some hundreds of men to the Reserve forces of the country, but there would be such an organisation at the various ports that every man who in time of need wished to render assistance would know where to find his place and where to

Value of
the corps

render assistance most effectually. There would be a skeleton corps ready to be filled up whenever danger arose. Whether that movement would succeed or not must depend very much upon persons connected with our maritime ports who engaged in such pursuits as boating and yachting, which had so much attraction for Englishmen ; and, on the part of the Government, he wished to say that they were anxious to assist and stimulate its growth. The Admiralty and the naval service cordially welcomed this new branch of the

Encourage-
ment by
Government
and Ad-
miralty

national defences. The Admiralty would be ready to provide it with the materials which were essential to drill. It had been represented that drill in the 'President' was too remote, and that it would be useful in reference to Londoners if there were a drill-ship in a central position in the Thames. It had, in consequence, been arranged that a gunboat should be moored as nearly as possible opposite Somerset House, so that there would be a standing monument of the existence of the Royal Naval Volunteers, and a place where any man could drill if he wished to do so. The interest felt by the people of London in the blue-jackets was shown some time ago by the enthusiastic ovation given to 500 men of the 'Excel-

An impor-
tant link

lent' when they marched through the streets, and the establishment of the Naval Volunteers would create a new and important link between the Navy and other branches of the defensive services. Mr. Brassey might well feel proud of that movement if it succeeded, as he (Mr. Goschen) trusted it would, having brought to it an organising and administrative ability which he inherited from his father, whose memory they all honoured.

X

*THE ORGANISATION OF THE ROYAL NAVAL
ARTILLERY VOLUNTEERS*

PAMPHLET PUBLISHED IN 1874

Royal Naval
Artillery
Volunteers

It has been thought desirable to publish the following statement, for the purpose of giving some explanation of the services, duties, privileges, and general organisation of the Royal Naval Artillery Volunteers.

How to be
recruited

In inviting persons to enrol themselves in the corps, the Lords Commissioners of the Admiralty desire to extend the Volunteer movement, so successfully established as an auxiliary to the land forces, to the defence of this country by sea. The proposal is novel and unprecedented in its character. In any other country than our own it would, in all probability, be visionary. In England, however, we possess a guarantee for the success of such an undertaking, which cannot be found elsewhere. A taste for maritime pursuits pervades this insular nation, and the hope may therefore be confidently entertained that the appeal now made to the patriotism of the nautical and aquatic sections of the community will not be urged in vain.

Naval
opinions in
favour of
such a force

Eminent naval authorities have, for many years past, recommended the formation of a corps for the purposes of coast defence, composed of persons who, while not possessing the wider experience of the seaman, are accustomed to the management of boats, and in the

constant habit of going afloat. The Act for the Royal Naval Artillery Volunteers, passed in the last Session at the instance of the Admiralty, and the regulations recently issued under that Act, afford the most convincing proof that, in the estimation of those who are actually responsible for the efficiency of the naval service, such a force is desirable. The concurrence of the naval members of the late administration in the various steps which have been taken, may likewise be quoted, in order to show that there is a general desire, among those to whom the welfare of the Navy is an especial object of solicitude, for the success of the movement, which it is the object of the present writer to explain.

It has been already stated that coast defence, and not service at sea, constitutes the especial sphere proposed for the Royal Naval Artillery Volunteers. The term 'coast defence' is perhaps, in a certain sense, a misnomer. The defence of the most important of our commercial harbours against an attack from the sea could not be effectually conducted by a force composed exclusively of men trained for the land service alone. The approach to all the great ports of the United Kingdom from the sea involves the navigation of extensive estuaries, where floating batteries and armed rafts and the use of torpedoes are essential to a complete defence, and would, in point of fact, effectually prevent the nearer approach of a hostile fleet. In the laying out of torpedoes on an extensive scale a flotilla of boats would be required; and in furnishing crews for such boats the well-trained oarsmen who, it is hoped, will be found willing to enroll themselves in the Royal Naval Artillery Volunteers, would be enabled to render valuable service. In all probability, by their co-operation in the hour of danger, they would release an equal number of highly

The harbour
defence
only

trained seamen, who would form the crews of sea-going cruisers. All our greatest ports, London, Hull, Newcastle, Leith and Granton, ports for Edinburgh, Glasgow, Bristol, Southampton, Belfast, Dublin, Cork, are situated at the head of an extensive estuary, or at some distance from the mouth of a navigable river. The mere enumeration of these names is sufficient to show how large a sphere there might be, in the event of a threatened invasion, for the employment, in the important and essential task of harbour defence, of an auxiliary force composed, not of trained seamen, but of persons who may be described generally as aquatics.

Skilled
seamen not
essential

It is to be observed that a mere oarsman, although not trained at the great guns or in the use of rifle and cutlass, would be enabled to do good work in a service in which the use of boats must be largely resorted to ; and that, in order to take a number at a gun mounted on a raft, such as the 'Nancy Dawson,' which the late Captain Coles improvised for our naval operations in the Sea of Azof, or to serve in a gun's crew in a floating battery for harbour defence, neither sea-legs nor sea experience are indispensable qualifications. For such duties those qualities are required which equally combine to make a good gunner and a good soldier, whether afloat or on shore—a fair share of physical strength and activity, intelligence, and, above all, courage and patriotism.

The force
need not be
numerous

Designed, as the Royal Naval Artillery Volunteers have been, for the especial work of coast and harbour defence, it is not necessary that the corps should be very numerous. It certainly need not exceed the numbers of our amateur yachtsmen and oarsmen, for whom the opportunity now offered of taking their share in the national defence is chiefly intended. Enough will have

been done if a brigade can be formed at each of the principal ports, of a strength varying from 200 to 600 men.

Having described the general scope of the duties which would devolve on the Royal Naval Artillery Volunteers in the event of their being called out for actual service, the nature of the training proposed for the members of the force may be briefly explained. The first consideration must be to familiarise them, to some extent, with the management of boats. This instruction might occupy much time in a corps composed of men who had never been in the habit of going on the water ; but, as the Royal Naval Artillery Volunteer Corps is to be recruited in a large proportion from among aquatics, many of their number may be expected to possess this qualification without the necessity for special instruction.

The
training
required

The next point to claim attention will be the exercise at the great guns. Here I may venture to affirm, from personal experience, that the naval gun drills have been, in every detail, so carefully considered, the instructors are so completely masters of the subject which they have to teach, and the mechanical appliances are such effectual substitutes for heavy manual labour, that a few days of constant attention will suffice to make a Volunteer a useful man in a gun's crew. The class of recruits required for the Royal Naval Artillery Volunteers possess advantages of intelligence and education far beyond those which the practical seaman can enjoy ; and we may anticipate, from the experience already acquired, that they will form some of the smartest gun's crews in any branch of the naval service. There is neither insurmountable difficulty nor unduly fatiguing labour in the drill at the great guns. The intricacies could be mastered in a few days if the Volunteers were kept con-

Gun drill
easily
acquired

tinuously at drill, as they necessarily would be should they ever be called out for actual service.

The essential point in a Volunteer corps is to secure men physically capable of doing their work, and who may be confidently relied upon as ready to serve whenever they may be called upon.

Small-arm
exercise

The small-arm exercises are still more easily mastered. A rowing man will find himself able to use his cutlass efficiently in a few hours ; and, after a couple of days of continuous drill, he would be able to go through the manual and platoon exercises with satisfactory smartness and precision.

Rowing and yachting gentlemen will perceive that they will have no difficulty in acquiring the knowledge of their drills which is required in order to make them efficient in the winter months. They will not find that their favourite amusements on the water in the summer months are incompatible with service in the Royal Naval Artillery Volunteers.

Facilities
for drill

Every effort will be made to afford to those who may be willing to join the Royal Naval Artillery Volunteers the necessary facilities for learning their drills. For the London brigade, the 'Rainbow,' a gun-vessel well adapted for the purpose, is now being fitted out at Chatham. This vessel will be ready in two months from the date of this publication ; and, when completed, will be moored in the Thames in a convenient position, off Somerset House. Should such an arrangement be found convenient for members of the Corinthian and other yacht clubs at Erith, it is possible that the 'Rainbow' may be moved, from time to time, to moorings near the pier at Erith ; and, should a desire to that effect be expressed by the members of the rowing clubs higher up the Thames, an effort will be made to move

the vessel to moorings near the boat-houses of any rowing clubs which have their head-quarters below Kew Bridge.

No positive promise, however, can be given that the 'Rainbow' shall be moved. There are many points to consider, such as draft of water, height and width of arches, and obstruction of the navigation of the river.

For those clubs which are established still higher up the river, where there is not sufficient water to float the 'Rainbow,' facilities for instruction may be provided by mounting a 64-pounder gun on a raft, which could be towed from place to place, and moored to the bank of the river adjacent to the boat-houses belonging to the clubs. An instructor would accompany the raft; and during the winter months arrangements might be made for giving to Volunteers an opportunity of going through their small-arm drills in a drill-shed, or other convenient place available for the purpose. Thus it may be found possible to extend the system of instruction by effectual, yet inexpensive, means far up the Thames, and so to embrace towns such as Reading, Maidenhead, Henley, Windsor, and even the head-quarters of rowing, the University of Oxford.

Instruction
on a raft

Inquiry having been made as to whether members will be expected to appear in uniform whenever they attend drill, it may not be superfluous to mention that the regulations are silent on this point. Members will only be required to wear uniform on special occasions, of which due notice will be given.

Members of the Royal Naval Artillery Volunteer Corps may therefore rest assured that they will have the opportunity of being thoroughly instructed in the drills in which it is considered desirable that they should be proficient.

Regulations
as to drill

The drills will comprise those for great guns, rifle, pistol, and cutlass, as in the Royal Navy, and no deviation from these drills is to be permitted.

The Officer-instructor

All drills will be carried out by the instructor attached to the brigades, under the Officer-instructor. The permanent staff of a brigade will consist of an Officer-instructor and one petty officer-instructor for each battery. The Officer-instructor will be commissioned as a lieutenant in the Royal Naval Artillery Volunteers, and will be selected from officers of, or retired from, the Royal Navy of and above the rank of lieutenant. He will keep the muster-rolls, and it will be his duty to make himself acquainted with all the members of his brigade and their qualifications. He will superintend all drills and exercises, and is to have complete control over the petty officer-instructors, and to be responsible to the Admiralty for their conduct and efficiency.

Attendances at drill

On the important point of the number of attendances at drill, the regulations require that every Volunteer must attend at least two drills a month, until he has obtained the standard of an efficient. An efficient must be able to perform in a satisfactory manner the duties of any number except No. 1 at heavy gun exercise, or at revolving gun exercise, as applicable to the 64-pounder guns mounted in gunboats; and he must be possessed of a good knowledge of the manual, platoon, and cutlass exercises.

Service afloat not compulsory

It has already been explained that these qualifications may easily be acquired in a fortnight of continuous attendance at drill, by the application of a very ordinary amount of intelligence and attention. The regulations expressly avoid the imposition of any compulsory service afloat in time of peace. Target practice afloat is

obviously essential to the efficiency of a naval gunner; and it is therefore desirable that every Volunteer should have a fair number of opportunities of taking part in this useful exercise. In a long summer's day, the members of the London brigade may embark in a gunboat at Erith or Gravesend, proceed to the Maplin Sands, off Shoeburyness—which is the most convenient place for firing practice over a sea range—and return to London by a convenient hour in the afternoon or evening. It will doubtless be the desire of every Naval Volunteer to avail himself of a sufficient number of opportunities for target practice to secure his own efficiency. But, as there are many who will be anxious to have a greater amount of exercise afloat, every Volunteer who wishes it may embark once a year, and remain for a period of eight days in a gunboat manned by a crew to be furnished from the battery to which he himself belongs. It should, however, be observed that, when called out for actual service, the Volunteers will not be liable to embark in sea-going vessels. Whenever so assembled, they will serve on board any of Her Majesty's ships employed in the defence of the coasts of the United Kingdom; unless, indeed, they volunteer for, and are found capable of doing duty in, sea-going cruisers. They will not be required to go aloft, or to attend to the fires in the stoke-hole. They will, however, have to accommodate themselves to the berthing and messing arrangements usual for the seamen of the Royal Navy.

Gunboat
exercise

The regulations recently issued contain ample information as to the organisation of the Royal Naval Artillery Volunteers; and their practical effect will be summarised in the following extracts from the code of rules.

Regulations
issued by the
Admiralty

Conditions
of service

The Volunteers are raised under the Act passed in 1873. They will be called out by Royal proclamation, and will be liable to serve in any vessels employed for coast defence. They will be liable to perform all the ordinary duties of the vessels in which they may be embarked, in the same manner as those duties are performed by the regular crews of Her Majesty's ships, except those duties that can only be performed by practical seamen.

Organisa-
tion

The Royal Naval Artillery Volunteer force, for administrative purposes, will be formed into brigades, and each brigade will consist of four or more batteries of from 60 to 80 men. Each brigade will be designated by a local name.

The following table contains the authorised establishment for brigades and the batteries composing them :

	Battery	Brigade of four batteries	Brigade of six batteries	Brigade of eight batteries
Lieutenant-commander	—	1	1	1
Sub-lieutenant	1	4	6	8
Chief petty officer	1	4	6	8
First-class petty officer	2	8	12	16
Second-class petty officer	2	8	12	16
Buglers	2	8	12	16
Leading gunners and gun- ners (equivalent to lead- ing seamen and able sea- men)	71	275	421	563
	51	195	301	403
Staff. { Lieutenant-instructor	—	1	1	1
{ First-class petty officer instructor	1	4	6	8
{ Surgeon	—	1	1	1
{ Bugle-major	—	1	1	1
{ Armourer	—	1	1	1
Total enrolled	80	320	480	640
	60	240	360	480

In this table, two numbers divided by a line signify the maximum and minimum strength—thus $\frac{80}{60}$ means not more than 80 and not less than 60.

Persons wishing to organise a corps to form part of a brigade of Royal Naval Artillery Volunteers should place themselves in communication with the Secretary of the Admiralty.

Formation
of brigades

Whenever it is practicable, a brigade will be formed at each of the large ports in the kingdom, and the batteries composing the brigade will be raised in the immediate neighbourhood of the port.

When the Volunteers are not of sufficient strength at any port to form a brigade, the batteries enrolled on a part of the coast formed into a district will be formed into a brigade, and will be called a district brigade.

Batteries

The object of this organisation is to unite separate batteries under one head, to secure uniformity among them, and to afford them the advantage of an Officer-instructor.

Candidates for enrolment as members of the Royal Naval Artillery Volunteers must be of good character, and physically fit for the service; their eligibility will be judged by the commanding officer of the corps, assisted by such others of the corps as he may think fit to appoint for that purpose.

Conditions
of enrolment

No person below the age of 17 is to be enrolled in the corps without the special authority of the Admiralty.

Boys of 14 years of age and upwards may be enrolled for the purpose of being trained as buglers.

Men belonging to any other force liable to be called out for service in case of war are not to be enrolled.

Apprentices are not to be enrolled without the consent of their masters.

Persons dismissed from any other service or corps for misconduct are not to be enrolled without the special sanction of the Admiralty.

Discharge

The commanding officer of a corps is to give to any Volunteer, on his quitting the corps, a certificate of discharge, when requested to do so by such Volunteer.

Every member has power to withdraw from the corps upon giving 14 days notice to that effect.

Classification

Enrolled members are classed as efficient and non-efficient.

All enrolled members who do not fulfil the conditions above referred to are reckoned as non-efficient.

Each brigade will be commanded by a lieutenant commanding.

Officers

Each battery will be commanded by a sub-lieutenant.

Petty officers

In each battery there will be, as has already been stated, one chief petty officer, two first-class, and two second-class petty officers.

The petty officers of a battery will be selected by the commanding officer of the battery.

Command

When assembled for drill or inspection, the Volunteers will be under the command of the senior naval officer of the district. When the Volunteers are assembled for drill, the senior officer will be represented by the Officer-instructor, a retired commander or gunnery lieutenant of the Royal Navy, whose duty it will be to see that all drills are properly carried out.

When afloat, the Volunteers are to be, in all matters whatsoever, under the command of the captain or commanding officer of the ship in which they may be.

Discipline

The authority of the officers commanding batteries is strictly limited to their own batteries only. The discipline will be the same throughout the corps, and

will be enforced by the lieutenant commanding the brigade, in conformity with the regulations issued by the Admiralty.

The lieutenant commanding will make arrangements Drill for drill, securing, so far as it may be necessary, separate hours for each battery. Before adopting any final arrangements for drill, he will confer with the Officer-instructor.

There may be an occasional general muster of the corps, when considered necessary by the lieutenant commanding.

The batteries will take precedence at general parades according to their numbers, and not according to the seniority of their respective commanding officers.

The brigade staff will not be attached to a battery, but will act under the lieutenant commanding only.

Officers of the Royal Naval Artillery Volunteers Precedence rank with, but after, officers of the Royal Navy and Royal Naval Reserve of their respective ranks.

All officers of the Royal Naval Artillery Volunteers will be commissioned by the Admiralty.

The commanding officers of brigades will recommend Appoint-
ments and
promotion for the consideration of the Admiralty names of persons for the appointments and promotion of officers in their brigades.

The appointment of an honorary commander to a brigade is allowed, and such honorary lieutenants and sub-lieutenants as the Admiralty may think fit to sanction.

Officers in full pay in the Navy or Army are not eligible for other than honorary commissions.

The uniform approved for the officers resembles Uniform generally that worn by officers of the Naval Reserve, silver being substituted for gold lace.

The officers
of the corps

The principle upon which the Volunteers should be officered has been one of the most frequent subjects of discussion among those who have associated themselves with the movement from the commencement, and who have been provisionally enrolled, with the sanction of the Admiralty, in anticipation of the passing of the Act of Parliament of last year.

A desire has been expressed that no officers should be appointed to the corps, but that the Volunteers should serve only under direct naval command. Practically, the desire, so strongly felt, has been fulfilled in the arrangements which have actually been made.

When afloat
under com-
mander of
gunboat

Whenever called upon to serve afloat, or when embarked for the purpose of training, the Volunteers will be under the command of the officer commanding the ship in which they may be. When embarked for their first cruise in the autumn of the present year, the arrangements were, of necessity, experimental and provisional. There was a natural desire on the part of the officer commanding the 'Foam' to meet the wishes of the Volunteers themselves in every possible way, consistent with the efficient performance of the service and the carrying on of the drills and exercises required. The same considerate spirit will doubtless prevail on all future occasions ; but the Volunteers who make themselves acquainted with the regulations will clearly perceive that, whenever they embark, they place themselves under direct naval authority ; and that, when afloat, their own officers are never to assume any naval command or authority whatever, unless ordered to do so by their superior naval officers.

Duty of
officers
when afloat

The officers of the Volunteers will do their utmost to assist the naval officers to preserve discipline. They may, if they think fit, set an example to their men by

taking an active part in all the duties and manual exercises. They may fall in at quarters, and take any number at the gun. In short, they may become, as much as they please, active working seamen and efficient practical gunners. It is for them to use their own discretion in determining how much or how little they shall participate in the manual labour involved in carrying out the drills and exercises ordered by the naval officers in command.

When at drill, as has already been pointed out, the Officer-instructor will superintend the instruction of the Volunteers, and he will be responsible that all exercises are properly carried out, in accordance with the regulations from time to time laid down for the instruction of the Royal Navy. It will thus be evident that the paramount and undivided authority of the naval officers over the Volunteers when afloat, and the superior responsibility of the officer of instruction when the Volunteers are at drill, so largely overshadow the authority of the officers of the Royal Naval Artillery Volunteers in all matters excepting those which relate to discipline and the civil administration and organisation of the corps, that it could not reasonably be expected that retired naval officers of rank should volunteer to become battery officers in the Royal Naval Artillery Volunteer Corps. Naval officers of less exalted rank do not often retire, if they have a great zeal for the service. Some exceptions, however, there must be to this general rule; and it is probable that a certain number of retired officers from the junior ranks of the Navy will, hereafter, kindly offer their services to command brigades or batteries in the ports or districts in which they may happen to reside. The Volunteers will at all times feel a pride in availing themselves of

Retired
naval
officers'
services
desired

such opportunities of acting under officers who have received a high professional training in Her Majesty's naval service.

Influence
of officers
of the corps

While the effect of the arrangements which have been described necessarily limits the sphere of the officers of the Royal Naval Artillery Volunteers, their services, in several important points, are not the less essential. It is to them that the Admiralty must look for the exercise of their personal influence in inducing recruits to join their respective brigades and batteries; and their moral influence will be the principal security for the maintenance of good discipline in a force composed exclusively of Volunteers. Although, under the regulations, no fixed standard of efficiency is expressly required in an officer of the Royal Naval Artillery Volunteer force, those among them who can command sufficient leisure for the purpose will readily appreciate how excellent an effect must be produced by the personal example of an officer who will take pains to make himself acquainted with the drills and exercises in which the men under his command are instructed. He will have the opportunity of obtaining the same certificate of proficiency which is given to those officers of the Naval Reserve who become qualified to drill the seamen of the Reserve at the great guns and in the small-arm exercises.

Good effect
of example

With the view of enlisting, in support of the Naval Volunteer movement, the potent influences which are derived from the *esprit de corps*, wherever it may reasonably and prudently be encouraged, it is proposed to associate certain batteries in the London brigade with some of the principal rowing and Corinthian yacht clubs on the Thames, and to give commissions to any

gentlemen, otherwise eligible, who are instrumental in raising a full battery of Naval Volunteers.

The following list of some of the principal rowing clubs will serve to show the large number of gentlemen from whom assistance may be expected in promoting the success of a movement for extending the Volunteer service to a certain sphere of naval operations :

The rowing
and Corinthian yacht
clubs

Name of Rowing Club.	Number of Members.
London	480
Kingston	425
Thames	300
Ino	300
Waldegrave	200
Twickenham	175
West London	170
Oscillators	162
North London	150
Grove Park	150
Isleworth	100
Ilex	100
Molesey	—

The Corinthian yacht clubs on the Thames are equally able to render assistance, and are indeed capable of raising, if they think fit, an entire brigade for the Royal Naval Artillery Volunteer Corps.

The resources of the clubs located on the banks of the Thames have been particularly specified ; because the present writer, in his connection with the movement under consideration, is more immediately identified with that river. Readers of these pages residing in the vicinity of any of our great ports will doubtless be able to discover equally ample materials for the foundation of a sufficient force for the purposes of co-operation in the defence of the coast in their own

All the
great ports
to co-operate

neighbourhood. A corps, though it may be raised at some distance from the sphere of its intended operations, in the event of threatened invasion will not be the less valuable for the defence of a great port.

The railway and the telegraph afford the means of concentrating large bodies of men in a few hours at any port on the shores of the United Kingdom. Wherever the Coast Guard are stationed, the means exist of giving instruction to the Naval Volunteers. All the out-ports at which men have been enrolled can be visited by a gunboat at frequent intervals, to embark the Volunteers for target practice afloat ; while those who wish to go to sea for an eight days' cruise will have every year the opportunity of doing so.

The
Volunteer
movement

In conclusion, it may not be superfluous to offer a few observations on the Volunteer movement generally. The most cogent inducements to Volunteer activity may appear to be wanting at the present time. Our country is happily not threatened with the danger of foreign invasion. A becoming modesty will deter any individual connected with the Volunteer service from arrogating to himself any share in the prestige and distinction which are the special privilege of the regular services. It is an essential feature of the present movement that there shall be no contribution from the State in the form of pecuniary reward for services rendered ; and that every effort shall be made by the Volunteers to impose as small a burden as possible on the Exchequer. The sterner sense of duty which is now encouraged among the Volunteers for land service is opposed to all attempts to gain popularity for the auxiliary forces by festivals, holidays, and entertainments.

While, however, all these inducements and attrac-

tions are withheld, a higher standard of efficiency in the officers and the men is properly insisted on. In presence of the difficulties which arise from the altered conditions of the service, some earnest friends of the Volunteer movement have been oppressed with doubts as to the possibility of stimulating the patriotism of the country to such a pitch that Volunteers shall still be forthcoming in a time of profound peace. I do not conceal my individual opinion that compulsory service may fairly be required from every individual of military age when the country is in danger. Unfortunately, so strong a measure would probably meet with an amount of resistance which could not be overcome in this free country, where nothing affecting the social habits and prejudices of the people can be proposed which is not universally popular. But I venture to hope that we may rely, in the absence of direct legal compulsion, on motives even more powerful than the strong arm of the law. If every man who is capable of co-operating in the defence of his country should feel himself compelled, by his sense of duty and patriotism, to enter his name in the roll of her defenders, the liability to service thus imposed by the free will of the Volunteer upon himself will be a far more effectual safeguard than legal compulsion for the security and the honour of England.

The Volunteer movement affords the occasion for teaching, in the most practical form, the duty of self-sacrifice in a worthy cause.

In the artificial conditions of modern society, there are multitudes of men who, in the ordinary exercise of their vocation, are unduly deprived of the opportunities for physical exercise and development. More especially is this true of the younger members of the pro-

Duty and patriotism higher grounds than compulsion for service

fessional and commercial classes. To them an appeal is now most earnestly made on behalf of the Royal Naval Artillery Volunteers. In taking a part in our drills and exercises they will do a work beneficial to themselves individually, and conducive to the welfare of their country.

*REGULATIONS FOR THE 'ROYAL NAVAL
ARTILLERY VOLUNTEERS'*

CONSTITUTION AND ESTABLISHMENT

Authority	<p>1. THE 'Royal Naval Artillery Volunteers' are raised under the 'Royal Naval Artillery Volunteer Act of 1873.'</p> <p>They are subject to the provisions of that Act, and to all regulations made with regard to them by the authority of the Admiralty.</p>
Liability to actual service	<p>2. By Royal Proclamation, the Royal Naval Artillery Volunteers may be assembled for actual service; and whenever so assembled, they will be liable to serve on board any of Her Majesty's ships or vessels employed in the defence of the coasts of the United Kingdom, or in any of the tenders or boats attached to such vessels.</p> <p>They will also be liable to perform all the ordinary duties of the vessel in which they may be embarked, in the same manner as those duties are performed by the regular crews of Her Majesty's ships, except those duties that can only be performed by practical seamen.</p> <p>They will not be required to go aloft, or to attend the fires in the stoke-hole.</p> <p>They will accommodate themselves to the berthing and messing arrangements usual for the Seamen of the Royal Navy.</p>
Corps, definition of	<p>3. A Corps is a body of persons who combine, under common rules, to form a part of the Naval Artillery Volunteer Force.</p> <p>The members of a Corps are either enrolled or honorary.</p>
Enrolled members	<p>Enrolled members are persons of every grade, whose names are duly entered for service in the muster-rolls of a Corps.</p>

Honorary members are persons who contribute to the funds of a Corps, but are not enrolled for service. Honorary members

4. The Naval Artillery Volunteer Force, for administrative purposes, will be formed into Brigades, and each Brigade will consist of four or more Batteries of from 60 to 80 men. Formation

5. Each Brigade will be designated by a local name, in addition to its number in the Force. How to be named

Each Battery will be designated by its number in the Brigade.

Every Corps will bear a local name only.

6. Each Brigade will be commanded by a Lieutenant Commanding. Commanding officers

Each Battery will be commanded by a Sub-Lieutenant.

Every Corps will have a Commanding Officer, who will of necessity be the Senior Officer belonging to the Corps, no matter what his rank may be, and who will be responsible, under the 'Naval Artillery Volunteer Act, 1873,' for the management of the internal affairs of the Corps.

7. The following table contains the authorised establishment for Brigades and the Batteries composing them: Establishment

	Battery	Brigade of four batteries	Brigade of six batteries	Brigade of eight batteries
Lieutenant-commander	—	1	1	1
Sub-lieutenant	1	4	6	8
Chief petty officer	1	4	6	8
First-class petty officer	2	8	12	16
Second-class petty officer	2	8	12	16
Buglers	2	8	12	16
Leading gunners and gunners (equivalent to leading seamen and able seamen)	71	275	421	563
Staff. {	51	125	301	403
Lieutenant-instructor	—	1	1	1
First-class petty officer instructor	1	4	6	8
Surgeon	—	1	1	1
Bugle-major	—	1	1	1
Armourer	—	1	1	1
Total enrolled	80	320	480	640
	60	240	360	480

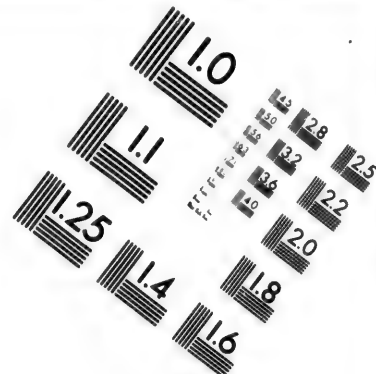
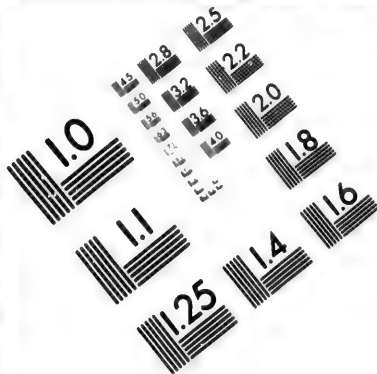
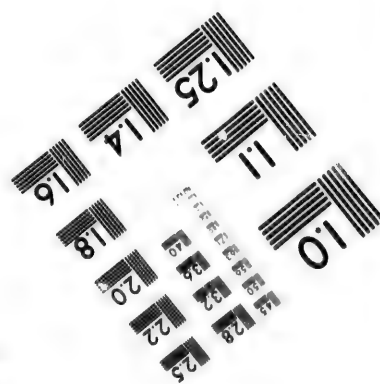
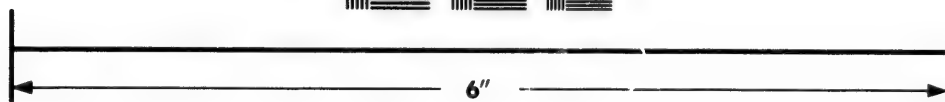
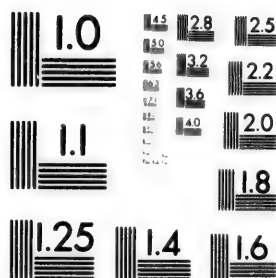


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23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

1.5 2.8 2.5
3.2 2.2
2.0

10

In the preceding table, two numbers divided by a line signify the maximum and minimum strength—thus $\frac{80}{60}$ means not more than 80 and not less than 60.

FORMATION OF CORPS

Course to be pursued for the formation of a new Corps

Reason for formation

New Corps not to be formed under certain circumstances

Information to be given on application

8. Persons wishing to form a Corps to form part of a Brigade of Royal Naval Artillery Volunteers should place themselves in communication with the Secretary of the Admiralty.

9. The Admiralty, in considering offers of the services of a new Corps, will have regard to the number of Corps or Batteries already existing on the same part of the Coast where the proposed Corps would be.

10. The formation of a new Corps will not be sanctioned, unless a sufficient number of persons to form a Battery are prepared to enrol themselves, and whilst any Battery already existing in the locality is below its establishment.

11. In offering the services of a new Corps for acceptance, it should be stated:

- (a) The place proposed for its head-quarters.
- (b) The number of persons who are prepared to enrol themselves.
- (c) The name and address of some person with whom communications on the subject may be made.
- (d) The Brigade of which it will form a part.
- (e) That a proper place will be secured for the safe custody of any Government arms and ammunition which may be issued.

(Form in Appendix A.)

Single Brigade

12. Whenever it is practicable, a Brigade will be formed at each of the large ports in the Kingdom, and the batteries composing the Brigade will be raised in the immediate neighbourhood of the port.

District Brigade

When the Volunteers are not of sufficient strength at any port to form a Brigade, the batteries enrolled on a part of the coast formed into a district will be formed into a Brigade, and will be called a District Brigade.

The object of this organisation is to unite separate batteries under one head, to secure uniformity among them, and to afford them the advantage of an Officer-instructor.

PRECEDENCE AND COMMAND

13. The 'Royal Naval Artillery Volunteer Force' takes precedence immediately after the 'Royal Naval Volunteers' established by the Act of 1859.

Rank of the force

14. The relative precedence of the Brigades forming the Force is determined by the date on which they were first severally established.

Precedence of brigades

15. The relative precedence of Corps is determined by the date on which the Secretary of the Admiralty has first received a letter offering the services of the Corps.

Precedence of corps

16. Officers of the Royal Naval Artillery Volunteers rank with, but after, Officers of the Royal Navy and Royal Naval Reserve of their respective ranks.

Precedence of officers with others

17. The relative precedence of Officers of the whole Force is determined solely by the rank and date of their commissions in the Force.

Precedence of officers with each other

18. The relative precedence of Officers bearing commissions of the same date is determined by the order in which their names appear in the Navy List.

Precedence of officers of same date

Nothing in these Regulations is to give a claim to any Officer of the Royal Naval Artillery Volunteers to assume command of any of Her Majesty's Land Forces on shore, nor to any Officer of Her Majesty's Land Forces to assume command of any of Her Majesty's Naval Forces.

But when Officers of the Royal Naval Artillery Volunteers are employed on shore on joint service with Her Majesty's Land Forces, their relative rank shall carry with it all precedence and advantages attaching to the rank with which it corresponds, except command as aforesaid.

19. All Royal Naval Artillery Volunteers, when assembled for drill or inspection, or voluntarily doing any naval duty either afloat or on shore, will be under the command of the Commander-in-Chief, or Senior Naval Officer of the district within which such Royal Naval Artillery Volunteers are undergoing drill or inspection, or doing duty.

To be under command of senior naval officer when ever assembled

Not to
assume
naval
command
unless
specially
ordered

20. The Officers and Petty Officers of the Royal Naval Artillery Volunteers shall command each other, and the Gunners and Buglers of the Force, agreeably to their respective ranks, in all matters relating to their duties; but none of them are ever to assume any naval command or authority whatsoever, unless ordered to do so by their Superior Naval Officers, and they are to be, in all matters whatsoever, under the command of the Captain or Commanding Officer of the ship in which they may be, and of the Officer of the Watch for the time being whatsoever his rank may be.

HONOURS AND DECORATIONS

Guards

21. A Guard of Honour may be provided as a matter of course for a member of the Royal Family, or the Admiralty, on arrival in the neighbourhood of the head-quarters of a Brigade; but in no other case will any body of the Naval Artillery Volunteers take part in any public procession or ceremony, or form a Guard of Honour, without the special authority of the Admiralty or the Senior Naval Officer of the district.

Decorations

22. The only decorations that may be worn on the left breast are those given by the Queen or by a Foreign Sovereign.

In the last case mentioned, Her Majesty's permission to accept and wear the decoration must have been granted.

The medal of the Royal Humane Society may be worn.

OFFICERS

Appoint-
ment

23. All Officers of the Royal Naval Artillery Volunteers will be commissioned by the Admiralty.

Command-
ing officers
to recom-
mend

24. The Commanding Officers of Brigades will recommend for the consideration of the Admiralty names of persons for the appointments and promotion of Officers in their Brigades.

In order to enable the Admiralty to judge the qualifications of the persons recommended, the Commanding Officer will forward, with his recommendation, a statement giving the name, age, residence, place of education, and occupation or profession of the Candidate, as well as a Medical Officer's

Certificate, stating that the Candidate is in good health and fit to perform the duties of an Officer.

25. If any person recommended for an appointment as an Officer holds a commission in the Royal Navy or other Force, the nature of such commission should be stated in the letter of recommendation. Holding a commission in other forces

26. Officers on full pay in the Navy or Army are not eligible for other than honorary commissions. Eligibility of full pay officers

27. The appointment of an Honorary Commander to a Brigade is allowed, and such Honorary Lieutenants and Honorary Sub-Lieutenants as the Admiralty may think fit to sanction. Honorary Commander

28. The appointments of an Honorary Chaplain and Staff-Surgeon to a Brigade are allowed at the discretion of the Admiralty. Honorary Chaplain and Surgeon

29. The appointments of all Honorary Officers will cease whenever the Force is called out for actual service, unless the Admiralty shall see fit to accept the services of any such Officers who may volunteer for active service. Honorary appointments when to cease

30. No Officer holding an honorary commission can, in virtue of it, take precedence of any Officer holding a substantive commission of the same rank. Precedence of honorary officers

31. Every Officer is required to possess a competent knowledge of his duties, and to give a proper attendance at the drills of his Corps. Officers to possess a knowledge of duties, &c.

Any Officer who does not attend the number of drills prescribed for the enrolled Volunteers of his Corps, to qualify them for certificates of efficiency, will not be allowed to retain his commission unless the Admiralty may see special reasons for a relaxation of this Regulation.

PETTY OFFICERS

32. The Petty Officers of a Battery are appointed by the Commanding Officer of the Battery, from among the enrolled members of the Battery. Appointment

33. Leading Gunners may be appointed by the Commanding Officer of a Battery, in the proportion of one to every twenty of Enrolled Gunners. Leading Gunners

34. A Petty Officer or Leading Gunner may be reduced by Reduction

the Commanding Officer of a Brigade, for any sufficient cause; such cause to be judged by the officers of the Brigade sitting as a Court of Inquiry.

ENROLLED MEMBERS

Qualification	35. Candidates for enrolment as Members of the Royal Naval Artillery Volunteers must be of good character and physically fit for the Service; their eligibility will be judged by the Commanding Officer of the Corps, assisted by such others of the Corps as he may think fit to appoint for that purpose.
Age	36. No person below the age of 17 is to be enrolled in the Corps without the special authority of the Admiralty. Boys of 14 years of age and upwards may be enrolled for the purpose of being trained as Buglers.
Disqualification	37. Men belonging to any other force liable to be called out for service in case of war are not to be enrolled. Apprentices are not to be enrolled without the consent of their masters. Persons dismissed from any other Service or Corps for misconduct are not to be enrolled without the special sanction of the Admiralty.
Certificate of discharge	38. The Commanding Officer of a Corps is to give to any Volunteer, on his quitting the Corps, a Certificate of Discharge, in Form B of the Appendix, when requested to do so by such Volunteer.
Classification	39. Enrolled Members are classed as Efficient and non-Efficient.
Efficients	40. An Efficient Member must have fulfilled the conditions prescribed by the Admiralty from time to time.
Non-Efficients	41. All enrolled members who do not fulfil the conditions above referred to are reckoned as non-Efficients.

HONORARY MEMBERS

Number and position	42. The number of Honorary Members attached to any Corps is not regulated by the Admiralty, and such Members are not included in the muster-roll of the Corps to which they are attached.
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They are not subject to discipline nor allowed to interfere with the duties of the Corps, but they are permitted to wear its uniform, unless a special provision to the contrary is contained in the authorised Rules of the Corps.

RULES

43. In order to give legal force to the Rules of a Corps for the management of its affairs, they must be submitted to the Admiralty for approval. Must be approved

44. All Rules which are to be forwarded for approval must be transmitted in duplicate, one copy to be retained at the Admiralty, the other to be returned to the Corps, with any alterations that may be required. To be transmitted in duplicate

COURTS OF INQUIRY

45. A Court of Inquiry is not a judicial body; it has no power to administer an oath. Nature of

It is to be considered as a Board of which the Admiralty or an Officer in command of a Brigade or Corps may make use to assist him in arriving at a correct judgment on any subject upon which it may be expedient to institute an inquiry.

46. The duties of a Court of Inquiry depend on the instructions which the convening authority may think proper to give. Duties of

It may be either employed merely in collecting and arranging evidence, or it may, in addition, be directed to give an opinion as to the facts established by that evidence; but it has no power to pronounce any judgment as to the course to be taken by the convening authority in dealing with those facts.

When facts connected with the conduct of an individual are submitted to the investigation of a Court of Inquiry, it is necessary that the instructions for the guidance of the Court should be sufficiently specific, as regards matter, names, dates, and places, to convey clearly to the Court the nature of the subject into which it is appointed to inquire, and also to enable

the person whose conduct is called in question to know what he has to answer.

It rests with the authority who orders the assembly of the Court of Inquiry to decide whether it shall be open or close.

All evidence taken by a Court of Inquiry is to be recorded as nearly as possible in the words of the witness and in the order in which it is received.

The proceedings when closed are to be signed by the President and Members, after which they are to be forwarded by the President to the convening authority.

May be re-assembled

47. A Court of Inquiry may be re-assembled as often as the superior authority may deem necessary, and on every occasion of its meeting it is competent to receive and record new evidence.

Power of Commanding Officer to assemble

The Commanding Officer of a Brigade is authorised to assemble a Court of Inquiry to investigate any matter with which he himself has the power of dealing.

DISCIPLINE

48. The course to be adopted as to the Discipline of the Volunteers will be found in Part III of the Naval Artillery Volunteers Act.

Meetings not to be held on actions of superiors

49. Meetings are not to be held in the Corps for the purpose of expressing an opinion upon the acts of a Commanding Officer, or of recommending him to take a particular course of action; nor are memorials to be drawn up to the same effect; and no meetings except those called together by or under the authority of the Commanding Officer of a Brigade or Corps, who will be responsible for doing so, will be recognised.

If any Volunteer has cause to think himself aggrieved, he will represent his case to the Commanding Officer of his Battery. Any appeal against the decision of the Commanding Officer of the Battery will be made through him to the Commander of the Brigade, and any further appeal will be made through both these officers to the Admiralty.

Not to attend political meetings in uniform

50. Members of the Force are not, individually or collectively, to attend political meetings, or join in public political discussion or demonstrations in uniform.

51. Bands of Volunteer Brigades are not to appear in uniform, for any purpose, without the consent of the Commanding Officer of the Brigade.

Bands of music

52. Members of the Permanent Staff will be held responsible that they do not allow themselves to be complimented, either directly or indirectly, by presents or collective expressions of opinion from persons who are serving or who have served in the Brigade to which they are attached.

Permanent Staff not to receive presents

53. Officers and men of the Royal Naval Artillery Volunteers, when in uniform, are to pay the customary marks of respect to such Officers of the Navy, Army, and Auxiliary Forces as are entitled to be saluted by Officers and men of corresponding rank in their own Service.

Volunteers to salute superiors of all services

54. Every Officer and Petty Officer shall make himself acquainted with and shall duly observe and obey, and as far as in him lies, enforce the due execution of the 'Royal Naval Artillery Volunteer Act, 1873,' and the Regulations for the 'Royal Naval Artillery Volunteer Force,' together with all Regulations, Instructions, and Orders, which may from time to time be given or issued by the Admiralty, or by any Superior Officer, and shall in all respects conform his conduct to the customs and usages of Her Majesty's Naval Service.

Officers to observe and enforce all regulations

55. When Royal Naval Artillery Volunteers are assembled with the Regular Forces of the Army in Camp or for training, they will be under the 'Naval Discipline Act, 1866,' in the same manner as if they were on actual service, and will be placed under the immediate command of an Officer of Her Majesty's Navy.

Discipline in camp

Camp rules will apply in all respects to the Royal Naval Artillery Volunteers.

The Naval Volunteers must perform the Camp duties of fatigue, cooking, &c.

56. In case of grave misconduct of any of the Royal Naval Artillery Volunteers whilst on board any of H.M. ships for the purpose of training, the Officer in command of the ship will report the circumstance to the Admiralty through the usual channel.

Case of misconduct when training to be reported

ASSEMBLIES OF THE FORCE

Conditions
on which to
meet under
arms

57. The Royal Naval Artillery Volunteers are not to assemble under arms for any purpose unconnected with Parade, Drill, or Rifle practice, except with the approval of the Admiralty.

Brigaded
with other
forces

58. The Royal Naval Artillery Volunteers may, when circumstances permit, be brigaded with other Forces, the sanction of the Admiralty having been previously obtained.

Visiting
garrison or
camp

59. When any of the Royal Naval Artillery Volunteers desire to visit any Garrison or Camp as a naval body, the permission of the Secretary at War must first be obtained through the Admiralty.

Upon all occasions of the Royal Naval Artillery Volunteers entering a Garrison or Camp as a body, the Officer in command must duly report his arrival to the Senior Naval Officer present, or, if there is not one, he will wait on the Officer in command of the Garrison or Camp.

Command
at rifle-
shooting
matches

60. When the Royal Naval Artillery Volunteers are brought together under arms at Rifle Shooting Matches, on other occasions, with other Volunteer Corps, or with any of Her Majesty's Land Forces on shore, the Officer in Command of the Royal Naval Artillery Volunteers, present, shall take care that everyone under his command complies with all the Regulations of the Land Forces relative to the Camp or ground on which they may be, and he shall confer with the senior Officer of the Land Forces, and act in concert with him, so that the Royal Naval Artillery Volunteers may in all cases act in accordance with the orders under which the Land Forces are acting; but it is to be distinctly understood that nothing in this Regulation is to give a claim to any Officer of Her Majesty's Navy, or of any Naval Volunteer Corps, to assume command of any of Her Majesty's Land Forces, nor to any Officer of Her Majesty's Land Forces to assume command of any of Her Majesty's Naval Forces.

Surplus
ammunition
to be col-
lected

61. When the Volunteers, at the termination of an exercise, are to return by railway or boat to their head-quarters, the arms are to be examined, and all the ammunition which has

not been expended must be collected and placed in a metal or leather case, with a view to its being conveyed in safety to the head-quarters.

STORES

- | | |
|---|--|
| 62. The Commanding Officer of a Corps is responsible to the Admiralty for all stores which are supplied by Government for the use of the Corps. | Responsibility for and care of |
| 63. Each Corps will be supplied gratuitously with arms from the Government stores to the full number of its enrolled members, if required. | Arms to be supplied by Government |
| 64. The arms to be supplied are in Appendix C. | Description of arms |
| 65. Before any Government arms can be issued, it is necessary that the Admiralty shall be satisfied that one or more places of security for the custody of the arms have been provided at the expense of the Volunteers. The Drill Ships, Coast Guard Stations, or Police Stations will probably be available in some places for the purpose. | Armouries to be available before arms are supplied |
| 66. Commanding Officers of Corps are to apply for the arms required in the prescribed Form of Requisition given in Appendix D, addressed to the Secretary of the Admiralty. | Application for arms |
| 67. The arms of a Brigade will be marked previously to their issue, and a request to that effect is to be inserted in the requisition on which the arms are demanded. | Marking arms |
| No other marks than those on them when issued are on any account to be put on the arms. | |
| 68. All arms issued to the Corps remain the property of Her Majesty's Government, and the Commanding Officer for the time being is held responsible for their being at all times in a serviceable state, and for their being returned into store when required in good condition, fair wear and tear excepted. | Responsibility for arms |
| 69. Great attention should be paid to the proper cleaning and care of the arms entrusted to the Volunteers, and the Commanding Officers are to point out to those under their command that, should rust be allowed to accumulate on any part of a rifle, it must inevitably impair the accuracy and efficiency of the weapon. | Cleaning and care of arms |
| 70. The arms are to be deposited after drill in the armouries of the Brigade or Corps; except when the Commanding Officer | Depositing arms |

may judge it expedient to permit members of the Brigade to keep their arms at their own houses.

As the Commanding Officer is responsible for the condition of the arms, this permission may be withdrawn by him whenever he may consider it necessary.

The arms retained in private custody will be subject to inspection at any time, and they are to be examined at least once in six months by the Commanding Officer of the Brigade or Officers appointed by him for that purpose.

71. Arms requiring repair are to be deposited with the Gunner of the Drill Ship to which the Brigade is attached.

72. Repairs of arms arising from fair wear, found to be necessary in order to make the arms serviceable, will be executed free of charge; the expense of other repairs will be borne by the Corps.

73. Ammunition in the following proportion, to be reckoned from the 1st April in each year, is allowed:

FOR GUNS.

For each Battery of Brigade	Shot	100
" " "	Shell	25
" " "	Blank	30
or		
For each Trained Man . . .	Shot	4
" Efficient . . .	Shot	2
And for the Battery . . .	Shell	25
" " . . .	Blank	30

FOR SMALL ARMS

—		Gratis	Allowed to be purchased	Total
For every Efficient for his first year's service	Rifled Ball . .	70	50	120
	Blank . . .	10	50	60
	Pistol . . .	100	100	200
	Caps . . .	110	110	220
For every Efficient after his first year's service	Rifled Ball . .	50	70	120
	Blank . . .	—	60	60
	Pistol . . .	50	100	150
	Caps . . .	60	110	170

Repairs of arms

Charge for repairs

Allowance of ammunition

Requisitions for small-arm ammunition, in accordance with the established proportion, are to be forwarded to the Commanding Officer of the nearest Drill Ship or District Coast Guard Ship for transmission to the nearest Control Officer. Special demands should be forwarded to the Secretary of the Admiralty by the Captains of the above ships for approval, on Form given in Appendix E.

74. Every Brigade is required to provide a secure place for the custody of its small-arm ammunition; but in cases where the store of ammunition is sufficiently large to make it desirable that it should be stored in the magazines of any of Her Majesty's ships, used as Drill Ships for the Volunteers, Commanding Officers of such ships will afford facilities for its reception.

Storing of
ammunition

75. Every care is to be taken in the conveyance and general handling of ammunition; and the Regulations and customs of the Royal Navy in that respect are to be strictly adhered to.

Conveyance
of ammu-
nition

76. Metal cylinders, or leather cartridge cases, for conveying the surplus ammunition collected from the pouches of Volunteers, under the provisions of Article 61, will be supplied at cost price.

Metal
cylinders,
&c.

77. No article of equipment will be returned into store for the purpose of being replaced until it has become thoroughly unserviceable. No articles will be returned into store on account of being of an obsolete pattern without the authority of the Admiralty.

Return of
articles un-
serviceable
or obsolete

78. All arms or other stores supplied free of cost and placed in the custody of the Royal Naval Artillery Volunteers, are, if lost, destroyed, or injured by fault or neglect, to be paid for by the Corps.

Stores lost
or injured
to be paid
for

79. All demands for stores, in accordance with the established proportion allowed, are to be made out in the War Office Forms in use in Her Majesty's Navy, and are to be forwarded by the Commanding Officers of Brigades to the nearest Drill Ship or Coast Guard Ship for transmission to the nearest Control Officer. Special demands should be forwarded to the Secretary of the Admiralty for approval by the Captains of the above-named ships.

Demands
for stores

DRILL

Nature of	80. The drills of the Royal Naval Artillery Volunteers will comprise the drills for Great Guns, Rifle, Pistol, and Outlass, as in the Royal Navy, and no deviation from those drills is to be permitted.
By whom to be carried out	81. All drills will be carried out by the Instructors attached to the Brigades under the Officer-instructor, and when on board any of Her Majesty's ships they will be also subject to the supervision of the Commanding Officer of the ship.
Qualification for 'Efficient'	82. The qualification necessary for an Efficient will be found in the Appendix F, and may be amended as the Admiralty may from time to time think necessary.
Badge of Efficiency	83. A Badge of Efficiency will be worn by men who were returned as 'Efficient' in the last Annual Return of the Brigade. The Badge will consist of a chevron of silver lace worn on the right arm above the wrist. Men who have been five times returned as Efficient may wear one star, and those who have been returned ten times may wear two stars above the badge.
Trained Man	84. Volunteers who pass the examination for Trained Man as in the Royal Navy, will be so designated, and will wear two chevrons of silver lace on the right arm above the wrist.
Non-Efficient to attend drills	85. Every Volunteer must attend at least two drills a month until he has obtained the standard of an 'Efficient.'
Firing practice to be superintended	86. No firing practice with great guns is to be carried on by Volunteers, except under the superintendence of an Officer of the Royal Navy, or of an Officer-instructor of Volunteers, unless a relaxation of this rule has been especially sanctioned by the Admiralty.
Precautions when at gun-practice	87. Sword bayonets are not to be worn at gun-drill, or when moving powder. No smoking is on any account to be allowed in the vicinity of magazines or cases containing powder. No persons are to be allowed to congregate round barrels or cases containing powder. Powder cases or barrels are not to be opened either inside a magazine or immediately outside the door.

ALLOWANCES

88. When on actual service the Royal Naval Artillery Volunteers will receive the same pay, allowances, and victuals as the Officers and Continuous Service Seamen of the ranks and ratings in the Royal Navy of relative rank, and will have the same means of allotting pay to wives, relatives and friends, and whilst on actual service will be treated in the same manner in every respect.

On actual service

89. When not on actual service and embarked on board any of Her Majesty's ships for more than forty-eight hours, the Volunteers will be victualled for the whole time they are so embarked, or receive compensation for provisions at the rate of 1s. 6d. per day; but when they are embarked for less than forty-eight hours, they will not receive victuals or an allowance in lieu.

Not on actual service

90. If a Volunteer is wounded or injured on service or on drill, he will be entitled to the same pension to which any seaman in Her Majesty's Navy would be entitled for a similar wound or injury; or if killed, slain, or drowned on service, or on drill, his widow (if any) will be entitled to the same gratuities out of Greenwich Hospital Funds as the widow of any other seaman of the Navy of the same rating.

Wounds or injuries on service or drill

91. Volunteers taken seriously ill or injured whilst undergoing drill, may be sent to a Naval Hospital or Sick Quarters for treatment.

Hospital or Sick Quarters

92. Applications for pensions or compensations for injuries or hurts received whilst on service or drill, are to be specially made to the Admiralty; the nature and cause of the injury are to be fully reported, and the names of the witnesses, as also whether blame was attributable to the Volunteer making the application, when the case will be considered as it deserves.

Applications for pensions

93. Volunteers are allowed to purchase at the Government rate any clothing or necessaries that may be requisite for their outfit or dress as belonging to the Corps.

Purchase of clothing, &c.

PERMANENT STAFF

94. The Permanent Staff of a Brigade will consist of one Officer-instructor to the Brigade, and one Petty Officer-instructor for each Battery composing the Brigade.

Composition

Appointment	95. The appointments to the Permanent Staff will be made by the Admiralty, and will be tenable for a term of five years, or for such lesser period that the Admiralty may think fit.
Officer when selected	96. The Officer-instructor will be commissioned as Lieutenant in the Royal Naval Artillery Volunteers, and will be selected from Officers of, or retired from, the Royal Navy, of and above the rank of Lieutenant.
Qualification	97. The Officer-instructor will be required to undergo a course of Instruction in one of the Gunnery Ships to qualify him for the duties of Instructor in Heavy and Truck Gun Drills, Rifle, Pistol and Cutlass Exercises.
Not to hold other appointment	98. As the services of an Officer-instructor will be at all times required by the Volunteers, he will not be permitted to follow any profession or appointment, public or private.
Age	99. No Officer whose age exceeds 50 years is eligible for the appointment of Officer-instructor.
Rank and position	100. An Officer-instructor of Naval Volunteers is purely a Staff Officer, and except for the purpose of Instruction, is not entitled, by virtue of his superior rank, to take the command of any Force of Naval Volunteers when an Officer of the Corps is present.
General duties	101. An Officer-instructor is appointed to give Instruction to the Volunteers. He is subject to the orders of his Commanding Officer, and he is required to assist him in carrying on the naval duties of the Brigade; but he is not to take any part in the civil affairs of the Brigade. It is his duty to keep the muster-rolls of the Brigade, and to make himself acquainted with all the members of Brigade, and their qualifications and dispositions. He is to superintend the drills and exercises of the Brigade, and is to have complete control over the Petty Officer-instructors of the several Batteries, and is responsible to the Admiralty that their duties are properly performed, and that the drills are in accordance with those laid down for the Royal Navy.
Diary	102. The Officer-instructor is required to keep a diary of the Instruction imparted by him to the Volunteers, according to Form G Appendix. This diary is to be certified by the Commanding Officer of the Brigade, and transmitted to the Admiralty on the 1st of every month.

103. The Officer-instructor will, under the Commanding Officer of the Brigade, have control over the Petty Officer-instructors, both as regards their discipline and their duties as Instructors; and he will, should he have occasion, report any misconduct or incompetency of a Petty Officer-instructor to the Admiralty.

Control over
Petty Officer-
instructors

PETTY OFFICER-INSTRUCTORS

104. The Petty Officer-instructors will have the rank First Class Petty Officers in the Royal Naval Artillery Volunteer Force, and will be selected from Pensioned Petty Officers of the Royal Navy and must hold a Certificate from one of the Gunnery Ships of competency as an Instructor in Heavy and Truck Gun Drill, Rifle, Pistol and Cutlass Exercises.

Rank and
position

They will be purely Staff Petty Officers, and will not be entitled, by virtue of their superior rank, to take the command of any of the Naval Volunteers when a Petty Officer of the Corps is present, except for the purpose of instruction.

105. The Petty Officer-instructors are to give instruction to the Volunteers under the direction of the Officer Instructor. They are subject to the Command of their superior Officers of the Naval Volunteers, and are to assist them in carrying on their Naval duties, but they are not to take any part in the civil affairs of the Brigade.

Duties

106. The Petty Officer-instructors will be expected, on all occasions, to set an example of what the Naval Volunteers should attain to, and they will only be allowed to retain their position so long as they conduct themselves as Petty Officers of the Royal Navy should do.

Conduct

They are to consider the Officer-instructor as their immediate head, and apply to him in all matters that may be necessary.

107. The Petty Officer-instructors will each keep a diary of the instruction imparted by him to the Volunteers according to Form in Appendix H. This diary is to be certified by the Commanding Officer of the Battery, and transmitted weekly to the Officer-instructor.

Diary

Pay of Permanent Staff

108. The Permanent Staff will receive pay as follows:
 Officer-instructor 10s. per day.
 Petty Officer-instructor 3s. „

UNIFORM

For Officers.

Distinctive lace

109. The Uniform to be worn by the Royal Naval Artillery Volunteers is to be of the same pattern as for Officers of the corresponding ranks in the Royal Navy, with the following exceptions, viz.:

110. Instead of each distinctive stripe of half-inch gold lace round the sleeve, there is to be a stripe formed of two waved lines of quarter-inch silver braid, running parallel to each other so as to form bands three-quarters of an inch wide, the blue cloth to show quarter of an inch between the lines of braid.

Buttons

111. The buttons to be of the Naval Pattern, with the letters R.N. on one side of the anchor and A.V. on the other side.

The crown and anchor to be gilt, and the remainder of the button silver.

Epaulettes

112. The epaulettes to be silver, and, instead of the anchor on the epaulette, there is to be a badge consisting of an anchor in the centre, surrounded by the words 'R. N. A. Volunteers,' embroidered in gold.

Crown and stars, when worn on the epaulettes, to be embroidered in gold.

Hat

113. Instead of the bullion loop on the cocked hat, the loop to be formed of two silver braids, waved as on the coat sleeves, and the tassels to be silver.

Badge or cap

114. The badge for the cap to have the letters R.N. placed on one side of the anchor, and the letters A.V. on the other side.

The anchor and letters to be embroidered in gold, and the surrounding laurel leaves in silver. The crown to be embroidered in gold and silver, as in the Naval Pattern.

Sword-belt

115. The plate of the sword-belt and the swivel to be

silver. The crown and anchor on it to be gilt, and the letters 'R.N.A.V.' on each side of the anchor, also gilt.

116. All lace and embroidery, except where otherwise ordered in these Regulations, is to be of silver. Lace and embroidery

Dress Uniform.

117. Coat the same as undress.

Trowsers.—The lace on the seam to be silver.

Dress
uniform

Sword-belt.—The embroidered lines to be silver.

The dress-trowsers and sword-belt to be worn only on such occasions as are customary in the Royal Navy.

Petty Officers and Gunners.

118. The Uniform to be of the same pattern as for Petty Officers and Seamen of the Royal Navy, with the following exceptions, viz.:

119. The buttons on jackets of Chief Petty Officers to be of silver, the same as those of the Officers. Buttons

The buttons of the Petty Officers and Gunners to be of the same pattern, but of black horn.

120. The tape trimmings of the white frock to be waved in the same manner as the braid on the coat sleeves of the Officers. Trimmings

121. All badges are to be of silver embroidery on the jackets, and of silver or white on the blue serge. Badges

On the white frock they are to be blue.

122. The cap ribbon to have a crown and anchor in front, with the letters 'R.N.' on one side of the anchor, and the letters 'A.V.' on the other. Cap ribbons

The crown and anchor and letters to be embroidered in silver on a black silk ribbon.

The letters to be five-eighths of an inch in size.

CORRESPONDENCE AND RETURNS

123. All official correspondence from the Volunteer Brigades except the correspondence of the Officer-instructor in his capacity of Instructor, is to proceed from the Commanding Officer, or to pass through him.

XI

THE NAVAL VOLUNTEERS

SPEECH AT LIVERPOOL, MARCH 27, 1888, WHEN DISTRIBUTING THE PRIZES TO THE ROYAL NAVAL ARTILLERY VOLUNTEERS

LORD BRASSEY desired to thank them for their kind acknowledgments of the very small service which he had endeavoured to render by distributing the well earned prizes to the successful Volunteers. He could assure them that he took the deepest interest in the Naval Volunteer movement, and in the progress of the Liverpool corps in particular. It was not the first time that he had had the pleasure of being present on occasions of interest to the Liverpool Naval Volunteers. During his connection with the corps there had been various changes. Their commanding officers had changed, and he might refer to the officer who was in command on the last occasion when he appeared before them, and who had done excellent service. After a long period of service Mr. Lambert retired, and he might congratulate the Liverpool Naval Artillery Volunteers upon the fact that Lord Anglesey had been kind enough to come forward and to give the corps the advantage which it derived from his deep personal interest in the movement, and from the influence which in his high position he was enabled to exercise in support of the Naval Volunteer movement. There had been another important change since he last had the privilege of addressing them. They

had received the capitation grant. The capitation grant was a matter of great congratulation. It showed that the Admiralty appreciated highly the services which the Naval Volunteers were capable of rendering, and it was a subject of congratulation upon other grounds. It enabled those who were in charge of a force of this kind to maintain a still higher standard of discipline and efficiency. The capitation grant was satisfactory for another reason—that it made it possible to extend the Naval Volunteer movement to many places where, without the support of the grant, it would not be possible to establish this very useful corps of Volunteers. He was sure that those who seriously reflected upon the subject must recognise the absolute necessity for the establishing of auxiliary forces for the purpose of manning the Navy. They lived at the present time under a powerful Government, and a Government associated with political principles which certainly entitled the Conservative party to claim that they were deeply interested in the efficiency of the naval and military services. He gladly accorded to the Government, and to the great party which was now in power, the praise which was due for their solicitude in the matter of national defence. He would ask them to remark that, under the present Government, it had been found necessary to make a very large reduction in the last two years in the sum of money appropriated to the naval service. He was not there to say that the amount which was now taken for the naval service was insufficient, but he confidently asserted that with the Naval Estimates fixed at their present amount it was impossible to make any reduction in the sum of money now available for the building of ships. The great feature in the naval construction of the present year—the new construction—was the creation of some very powerful

Appreciation
of the
Admiralty

Necessity of
auxiliary
forces

New ships
for defence
of commerce

ships for the defence of commerce. They all admitted that those ships were very necessary, and if they were to think of criticism it would be that the number proposed was hardly sufficient for the requirements. He would also draw attention to the fact that in the proposals for shipbuilding in the present Naval Estimates there was not included a single additional ship for the line of battle. Such being the state of affairs in regard to shipbuilding for the Navy, it must be obvious that they could not reduce the amount of money which was now being appropriated to the purpose of building ships. From that followed the deduction that, with the Estimates at their present figure, they could not appropriate an increased amount of money to the maintenance of the permanent personnel of the Navy, and if they could not maintain a greater number of seamen and marines in the permanent naval service, and if they admitted, as they must do, that if we were unfortunately engaged in a war we should require a large addition to the personnel of the Navy, what was the deduction to be made? It must be this, that to have Naval Reserves was absolutely essential for the efficient manning of the Navy. He had always put great faith in the efficiency of our Royal Naval Reserve. He would like to see it more numerous. He would be glad to see more done for its thorough training, more complete instruction in gunnery, more instruction in the torpedo. He would be glad also to see the Royal Naval Reserve more frequently called upon to man the ships of the Navy, and called upon from time to time to take part in the naval manœuvres. He had said that he had great faith in the Royal Naval Reserve, but then we had behind the Naval Reserve, and for the purposes of coast defence, our Royal Naval Artillery Volunteers. He believed the Royal Naval Reserve

Naval
Reserves
essential

Value of
Naval
Reserve

with further training and instruction, and even with the existing amount of training and instruction, would be extremely valuable, and he had implicit faith in the power of a force such as that he saw before him to render good service in the coast defence of the country. Before concluding, he would like to say a word or two with reference to this question of coast defence. He dared say they had heard of the association for the purpose of organising our coast defences, which had been established by Lord Cowper and a number of other patriotic noblemen and gentlemen. That association had recently put forth a most valuable pamphlet by a well known naval writer, Admiral Colomb. Admiral Colomb, in his paper, directed attention to the remarkable losses sustained upon our own coasts in the time of the great war. Even at the time that Nelson was in his greatest glory, we were losing large numbers of ships captured by privateers on our own coasts. In 1804 between 300 and 400 ships were taken on our coasts. In the year 1810 619 ships were taken on our coasts, and in the year 1813 the number was from 300 to 400. If these losses were sustained 60 years ago, they might imagine what we might suffer from *insufficient* coast defence at the present time, when our merchant shipping was valued at something equal to the National Debt, and when it was supposed that forty or fifty millions sterling of the income of the country depended on the security of the merchant shipping. He would not, however, insist upon that point. Admiral Colomb made one calculation which must be of interest to the people of Liverpool. He said that one ship entered or left the Mersey every seventeen minutes, showing the urgent necessity for more efficient coast defence. The vessels upon which Admiral Colomb relied were the local

Coast
defence
association

Number of
ships taken
on our coasts
in old wars

Local
defence

vessels ; but whether coast defence was made by local vessels equipped for the purposes of defence or by vessels provided by the Admiralty, certain it was that those vessels must be manned by a force in which the Royal Naval Artillery Volunteers would be a very important element. It had always given him great pleasure to come amongst the Naval Volunteers of Liverpool, and he had been exceedingly gratified that evening by the appearance of the men, which was everything that a patriot could desire. At any time when it was possible for him to render any service to the corps, he would ask them without any hesitation to appeal to him, and anything which it was in his power to do he should most cheerfully and gladly perform.

XII

THE ROYAL NAVAL ARTILLERY VOLUNTEERS

LETTER TO THE "TIMES," MAY 23, 1891

PROMINENCE has lately been given in the Press to the Royal Naval Artillery Volunteers. Good service has thus been rendered in a patriotic cause.

Our present strength is 2,000. It would be easy to raise our numbers to 5,000. It is, perhaps, superfluous to remark that Naval Volunteers are not required in time of peace. In the stress of war every available man would be wanted, and we have in the Royal Naval Artillery Volunteers a new force, which may be made, as it ought to be made, a valuable and effective auxiliary to the Navy. It is but natural that the naval profession generally should prefer to rely on men trained from boyhood for the service, and should look doubtfully on the Volunteers. If the practicability of creating a Volunteer force for land service had been left to the judgment of the military profession, it is certain that our noble army of citizen soldiers would never have been raised. The Volunteer movement was carried through the first difficult stages by the force of public opinion; and it is the same public opinion which, under the guidance of a responsible statesman at the head of the Admiralty, will ultimately secure a definite place for Naval Volunteers.

Number and
use of Naval
Artillery
Volunteers

Having been actively engaged in the first enrolment

Duties
Volunteers
are capable
of

of the corps, I feel it my duty to offer to the public the conclusions to which I have been brought in relation to its future organisation. My judgment may be partial, but I am convinced that afloat as gunners and small-arm men, and ashore as coastguardsmen and signalmen, these Volunteers would be thoroughly efficient for important naval duties. Even in the days of sailing ships the services of such men as are now enrolled in the Naval Volunteers would have been valuable for the manning of the fleet. How many of the men who fought at Trafalgar were trained seamen? It is well known that the crews were largely composed of landmen, drawn from the lowest classes of the population. In our modern and mastless Navy, large numbers of men trained in gunnery are required. The duties are few for which only pure blue-jackets are efficient. For gunnery and signalling duties, Sir George Tryon's committee fully recognise the capabilities of the Volunteers. Not having received the training of seamen, the committee recommend that they should be reorganised as a body of marine artillery.

A marine
artillery
force

Most earnestly desiring, as I do, that the Naval Volunteers should be established as a permanent and popular force, I concur in a recommendation which is entirely consistent with the views originally entertained. In the initiation of the movement it was not in the contemplation of the Admiralty that a body of Volunteer blue-jackets was about, as it were, to be improvised and added to the Navy without charge or cost to the public. In a letter addressed to Mr. Goschen on behalf of the pioneers of the movement, under date of June 27, 1873, I used these words :

Letter to
Mr. Goschen,
June 27, 1873

What kind of service do the Volunteers offer to perform for the country? They are prepared to act as

naval artillery on board gunboats and vessels adapted for coast defence in time of war. All necessary means for instructing them in their duties must be provided ; and as a naval artilleryman will be much more effective if he has some knowledge of the duties of a sailor, and as target practice afloat is absolutely essential, it must be desirable that the Volunteers should embark at intervals in a gunboat. In these opportunities of going afloat, which are an essential part of their training, you have the means of encouraging large numbers of men who have a passion for the sea to join the Naval Volunteers.

It was recognised that love of the sea, that eminently British characteristic, had led the Naval Volunteers to desire to associate themselves, at great personal inconvenience, with the Navy rather than with the Army ; but as to the nature of the duties which the new force was to perform, it was clearly understood that the place of the Volunteers was at the guns, and not aloft. While looking to the Volunteers to do duty only as gunners, the Admiralty were willing to gratify their nautical sentiment. Thus, while the force was designated an artillery force, and was subdivided into brigades and batteries—terms more appropriate to a body of marines than seamen—and while the highest rank permitted to an officer was that of sub-lieutenant, on the other hand the force was entitled Naval and not Marine Artillery, the uniform was that of the blue-jacket, and the training was entrusted to officers and instructors selected from the gunnery ships, and not from the Marine Artillery establishment at Eastney.

With due reasonableness on the part of the Volunteers and a spirit of conciliation on the part of the Admiralty, there should be no difficulty in putting the

Desire to be
attached to
the Navy

Mutual con-
cession be-
tween Admi-
ralty and
Volunteers

Naval Volunteer movement on a permanent and useful footing, very much upon the lines originally laid down. Let us Volunteers admit frankly that we are not a body of seamen. Let us claim for ourselves no more than the capability of becoming good artillerymen afloat. Let us acknowledge the limited sphere of duty for which we are efficient by accepting a change of title from Naval to Marine Artillery. On the other hand, it is for the Admiralty to appreciate and to foster the nautical spirit which animates us, and which is our pride and our boast. No changes should be insisted upon which are unnecessary from the point of view of practical efficiency. It would give quite needless offence to nautical feeling to change the uniform from the loose blue frock, so suitable for the work of the seaman-gunner, to the tunic and helmet of our sea-soldiers. For the gunners some slight mark of distinction from the Navy is alone required.

Suggested
changes in
training

No change is required in the method of training, as now followed at the head-quarters of the several brigades. I would, however, strongly urge, in substitution for the gunboats hitherto provided as summer cruisers, that the Volunteers should be permitted, or perhaps required, to go through a ten-days' training every year in the 'Excellent.' Their hammocks could be slung on board the 'Victory'; and during the annual mobilisation there would be ample room to drill in the batteries on Whale Island. The training afloat would embrace drill and target practice in the sea-going gunnery-ship 'Hero.' The armoured turret-ships of the Gorgon class should be distributed to the great commercial ports, and thus the Volunteers would have the opportunity at their several head-quarters of being regularly drilled in turrets.

Intelligence
of the
Volunteers

And here it may be appropriately observed that, in the opinion of the most competent officers who have

been employed as instructors, the more complicated the mechanism the more conspicuously the superior intelligence and education of the Naval Volunteers would make themselves felt. Our men are admirable at guns mounted on the broadside. They would do even better relatively in the turret of an ironclad.

As a further means of giving the Volunteers their sea-legs, sailing-clubs should be organised in connection with each brigade. By the combined resources of a common purse all could become yachtsmen. The practicability of this proposal has already been established. A successful voyage to the Azores has been performed in a schooner, provided by the liberality of Mr. Seth-Smith, manned exclusively by Volunteers.

Organisation
of sailing-
clubs

As to the rank of the officers, it is not a point on which they insist strongly. They do not want promotion as marines, nor can they claim a place on the lieutenants' list. This detail is essentially for the consideration of the Admiralty.

As to numbers, questions of organisation once disposed of, the Admiralty should without delay permit the enrolment of brigades of Volunteers at each of the great commercial ports. London, Bristol, Liverpool, and the Clyde having been already provided for, the inner circle of Naval Volunteer defence should be completed in the Forth, the North-eastern ports, and the Humber. A completely organised force should comprise not less than 5,000 men. These numbers would be required to man the defensive flotillas of the several ports, and to do duty at the look-out stations on the coast. In the event of war many would embark in the permanent squadron in the Channel. Not a few would volunteer for service in any part of the world.

Extension of
the force

To one objection which has been raised, to the effect

Social
position no
detriment

that the Volunteers are drawn from a too superior class of society, a complete answer can be readily given. We do not contemplate active service except in a grave emergency ; but if such an emergency should arise, and the City of London be in apprehension of the dire catastrophe so graphically described by the late Lord Overstone, bankers and merchants would gladly give leave of absence to clerks who were capable of doing service in the defence of their country.

Admiralty
control

In conclusion, it must be clear that in the constitution of a fighting force the democratic principle is inapplicable. On the Admiralty rests the undivided responsibility of deciding as to the qualifications, duties, training, uniform, and rank of the Naval Volunteers. I trust that in dealing with the Naval Volunteers they will be animated by a sincere desire to create and maintain a substantial force. In that spirit let them give their orders. It will be for us Volunteers to obey.

24 Park Lane, May 23, 1891.

XIII

ON A COLONIAL NAVAL VOLUNTEER FORCE

PAPER READ AT THE ROYAL UNITED SERVICE
INSTITUTION, MAY 17, 1878

It is not surprising that the idea of organising a Colonial Naval Reserve should have been deferred to the present time. The growth of our Colonial Empire has been so rapid that the resources out of which such a force could be created have only lately been at our disposal.

It has been remarked by Mr. Wilson, in his recent volume on the resources of modern countries, that none of the colonies were of great promise before 1845. Canada languished ; New South Wales—then including Victoria and Queensland—was a feeble settlement, still troubled by a residuum of transported criminals ; the Cape of Good Hope was almost Dutch. The total English population of the whole of our foreign possessions did not, in 1850, exceed 2,000,000. The population of these colonies has at least quadrupled in thirty years, and in some cases is now tenfold what it was in 1845.

Growth of
the colonies
since 1845

Visitors to the Exhibition now being held in Paris will see abundant and gratifying proofs of the marvellous development of our colonies, and of their ability to provide adequate means of self-defence. The Australian governments have wisely embraced the opportunity of showing to the world their varied and valuable products. From New South Wales we have copper, silver, lead,

Products of
the colonies

marble, tin, slate, and opals; wine—including all the varieties of the French and German vineyards—tobacco, and, perhaps most important of all, wool. From Western Australia we find leather, timber, silk, coal, lead, and wines. Victoria, which boasts of 800 trees and flowering shrubs, exhibits also coal, wines, and cloth manufactures. She reminds us, by means of pyramidal models, of the value of her productions of gold, and of the exceptional good fortune of certain adventurers. From the Cross Reef Mine 1,000,000*l.* worth, from the Long Tunnel 221,262 ounces, from the Port Philip Company's workings to the value of 1,500,000*l.* have been extracted.

Queensland

Queensland exhibits malachite, gold, copper, cinnabar, chrome, iron, plumbago, and antimony, sugar, coffee, wheat, maize, tobacco, silk, and wool. The commercial and agricultural development of the colony is set forth in the following figures :

In 1876 the total value of the exports amounted to 3,875,000*l.*, including

	£
Wool	1,449,576
Hides	79,612
Cattle	157,772
Preserved meat	94,642

The value of the imports in the same year was 3,126,000*l.*

Queensland has a population of 200,000.

The live stock depastured includes—

Horses	130,289
Cattle	1,985,807
Sheep	7,241,810
Pigs	53,455

South
Australia

Lastly, South Australia exhibits copper, tin, wines, timber, leather, wool, and tobacco. With such a collec-

tion before us, we are justified in forming the brightest hopes for the future prosperity of the great Anglo-Saxon communities in the Antipodes. The page of their history is short, but they are a vigorous and energetic people, eager to embrace every opportunity afforded by a bountiful nature, and labouring valiantly in the spirit of their well-chosen motto, 'Advance Australia.'

The time seems now to have arrived when the colonies should be reminded of their obligations to provide for their own self-defence, and of their duty to take a part in those naval and military preparations the cost of which should be borne in due proportions by the whole Empire.

The necessity for the organisation of a Naval Reserve for the defence of the colonies has been recognised by many lecturers who have preceded me in the theatre of the Royal United Service Institution. The Brothers Colomb have been among the foremost in urging the need of such a force. They have shown what are the strategical points which are of the most vital importance to the integrity of the British Empire, and have earnestly recommended the appointment of a Royal Commission to examine the subject. Nothing, however, has been done, and we find ourselves at the present moment contemplating the possibility of war, and utterly unprepared with the means of defending the important outlying members of the Empire by those local forces which might so easily have been organised. Readers of the papers published in the 'Nineteenth Century' will remember the imaginary but very forcible description recently given by Sir Garnet Wolseley of a Russian squadron performing a cruise of circumnavigation in time of war, arriving off all our most valuable

Necessity of
Colonial
Naval
Reserve

settlements, and winning a series of inglorious triumphs by levying black-mail on rich seaports which could offer no resistance. It would perhaps be found more difficult to carry out such a series of operations than to describe them with the ready pen which Sir Garnet so well knows how to use; but the bare conception of such a state of things ought to be unendurable, alike to the people of the mother-country and of her dependencies.

No difficulty
in raising a
Reserve

The policy of encouraging such a movement having been accepted, there can be no practical difficulty in raising a Naval Reserve in the colonies. If it be intended to provide the means of manning sea-going ships, the Naval Reserve which has been formed for the defence of the mother-country presents a model for imitation. If coast and harbour defence alone is attempted, the system of organisation adopted for the Royal Naval Artillery Volunteers may be followed with advantage.

Connection
with the
Imperial
Government

In considering a project for a Colonial Naval Reserve, it is essential to determine, *in limine*, to what extent the direct intervention of the Imperial Government will be required. Among a certain school of politicians, it will be considered that local defence is a task which must be left entirely to the Colonial Governments. They think that the colonies are quite able to take care of themselves; that, man for man, the colonists are better off than the population of the mother-country; that it is the duty of our statesmen to rear up young and vigorous communities in habits of self-defence, and to bring home to their people a sense of their obligation to make sacrifices for public objects and to bear their proportionate share with the mother-country of the burdens of military preparations.

A closer
union with
the colonies

Another school of politicians is in favour of a closer connection with the colonies. They are anxious to pro-

mote a federal union of all the members of the British Empire. They wish to arrive at a mutual agreement on all questions of tariffs ; and, with a view to concerted action in Imperial questions, they are in favour of giving to the colonies representatives who should sit in the great council of the Empire at its seat of Government. In consideration of the protection afforded by the fleet, they are prepared to recommend a contribution from the colonies to the naval expenditure of the country. In these views I concur, and I see additional evidences of their truth in the most recent incidents in our political experience. It is rarely possible for this country, under a popular representative Government, to pursue a satisfactory course in its relations with foreign countries. The greater number of those who take a lively interest in public business concern themselves rather with domestic questions than with foreign policy. Being without knowledge, they arrive at hasty conclusions, and every new incident that occurs produces a corresponding change in their opinions. Hence it is that our foreign policy is inconsistent and uncertain ; that we disappoint allies in whom we have raised expectations, and make sacrifices for unattainable or unworthy objects.

The Eastern Question once disposed of, it is my earnest hope that the attention of British statesmen may be directed rather to the object of drawing the colonies and the mother-country more closely together, than to continental affairs.

In our relations with other nationalities we excite jealousy by our prosperity. Although singularly unselfish and unaggressive, our country is not greatly loved abroad. On the other hand, old England, as their mother-country, still retains the warm affection of her

Attachment
of colonies
to England

colonies. Our Government may show a chilly indifference to their concerns, but England is still the 'home' of all English-speaking people; and the identity of religion, history, laws, and literature, unites together every member of the family by bonds more enduring than the protocols and treaties, however valuable they may be, which are negotiated with foreign nations.

Value of
colonies to
England

The arguments in favour of a cordial co-operation of the United Kingdom with the colonies in measures of mutual self-defence have been conclusively stated by several able writers in recent periodicals. I may specially refer to Captain Colomb, Sir Julius Vogel, and the author of a paper on England and her Colonies which appeared in 'Fraser's Magazine' in January. We are reminded, in the papers to which I refer, of the value of the colonies to the mother-country for the inevitable development of the British population, and as the main source of our maritime prosperity. While foreign countries are steadily determined to exclude British industries from the markets over which they exercise control, the value of the colonial trade becomes increasingly manifest; and, while we derive these advantages from our vast colonial connection, it is obvious that, in proportion to their own prosperity, the colonies are bound to take their share in defending the Empire. It is to be regretted that these obligations were not more strictly defined at the time when the privilege of self-government was conceded.

Lord Beaconsfield on
our colonies

In his speech at the Crystal Palace, in 1872, Lord Beaconsfield said: 'Self-government, when it was conceded, ought, in my opinion, to have been conceded as part of a great policy of Imperial consolidation. It ought to have been accompanied by a military code, which should have previously defined the means and

responsibilities by which the colonies should have been defended, and by which, if necessary, this country should call for aid from the colonies themselves. In my opinion, no minister in this country will do his duty who neglects an opportunity of resuscitating as much as possible our Colonial Empire, and of responding to those distant sympathies which may become the source of incalculable strength and happiness to this land.'

From an Imperial point of view, the best defence of the colonies consists in a powerful Navy; and it is because the naval service is constituted in part for the defence of the colonies that we may reasonably claim from all our dependencies contributions in equitable proportions, to be mutually and amicably determined, towards the naval expenditure of the country.

Navy best
defence

The latest tables, showing the progress of British mercantile shipping, give the total tonnage of the mercantile navy of the British Empire at 8,133,837 tons, and the tonnage of the United Kingdom only at 6,336,360 tons. The difference between these amounts (1,800,000 tons) represents a total tonnage for the colonies which is little short of the combined tonnage of the French and German Empires. It must be evident that the owners of such a large tonnage will be quite able to contribute their share of the cost of defending the harbours from which they trade.

Progress of
British
shipping

It has been suggested by Captain Colomb, R.M.A., that one of the home dockyards—Pembroke, for example—might be closed, and the staff transferred to a dockyard which should be established at Sydney or Melbourne. Captain Colomb urges that, with our remaining dockyards, and the boundless resources of our private trade, we should be abundantly able to provide for the construction of new ships and for the repairs of

A colonial
dockyard

the Navy, even in times of the most pressing emergency ; while, on the other hand, the growing importance of the Russian Navy in the Pacific, the extension of British trade over most of the islands in that vast ocean, and the great distance which separates our Australian territories from the mother-country, make it highly desirable to establish a dockyard in that part of the world. It is to be presumed that some contribution would be obtained from the local Governments towards the expenses of such a dockyard, if established in their midst. The facilities which it would afford to the mercantile marine would present an additional inducement to the colonies to make a contribution towards its maintenance.

Local
colonial
defence

The Colonial Governments have already begun to consider the question of local defence, and in one or two instances they have provided low freeboard ironclad turret-ships for that purpose. Victoria has lately voted a sum of 350,000*l.*, together with an annual outlay of 73,000*l.*, to provide ships, artillery, torpedoes, and rifles for the local defence. New South Wales has voted a like sum for the same object. The colony has formed a Volunteer Naval Brigade of 250 men, the annual expenditure on this little force being 3,916*l.* In the Canadian Dominion a committee appointed by the Royal Halifax Yacht Club, in a report dated April 14, 1873, strongly recommend the organisation of a Naval Reserve, a Coast Guard to protect property in the event of shipwreck, and a Lifeboat Institution.

It may be assumed that the Colonial Governments would be fully prepared to bear their share of the expenditure required for any complete scheme of Imperial defence by naval means ; we may pass on, therefore, to consider what kind of force would be most useful for colonial service.

It has been already observed that the most effective means of defending the larger ports would consist in ironclads or turret-vessels rather than in forts. Captain Colomb, R.N., has urged in his prize essay that the main object of our naval organisation consists in the maintenance of our communications by sea, and that our coaling-stations abroad are the principal strategical positions which it is essential to guard. He argues that this object will be best attained by the maintenance of an adequate sea-going fleet, charged with two great defensive functions : (1) that of keeping the enemy in his own ports, (2) that of keeping open the great sea-routes to and from the heart of the Empire. He considers that this duty can only be performed by sea-going vessels, and that the building of powerful ships which are not fully sea-going, and which are more or less incapable of maintaining the ocean communications of the Empire, can only be justified on the assumption that the chief danger to be apprehended lies in a successful attack on our harbours.

Ironclads
better than
forts.

Captain
Colomb's
prize essay

But if, he says, our enemies are to career at will across our lines of communication, while we guard their terminations at head-quarters, what will be left us to guard ? He puts much faith in the sea-going fleet resting on the naval station as a protective force, and condemns with steady design the idea of the harbour-defence ship. Such vessels are every whit as likely to be withdrawn as the sea-going ship when they are wanted ; and the only result is that you build a bad sea-going ship, when, had you never considered harbour-defence, you would have built a good one.

Sea-going
vessels
essential

Captain Colomb throws the local home and colonial harbour defence entirely on forts, and the stationary and locomotive torpedoes. The supplemental local har-

Local har-
bour defence

bour-defence corps is to consist of Volunteer torpedo men, whose functions will be of a nature peculiarly adapted to the superior education and undoubted skill and daring of the men who would be enrolled in such bodies.

Admiral
Phillimore
on the Naval
Artillery
Volunteers

This view is confirmed by the recent report of Admiral Phillimore on the conduct and efficiency of the Royal Naval Artillery Volunteers, dated March 15, 1878.

The opinion of my predecessor on the Royal Naval Artillery Volunteers is given at page 7 of his Confidential Report on quitting office, dated 18th October, 1876:—

‘That they would be useful in the event of war, in the defence of the estuaries, while in peace they serve as a connecting link between the Volunteer movement and the Royal Navy.’

Both at London and Liverpool the condition of the brigade is excellent. The Volunteers drill with celerity and precision, and are extremely zealous. They cheerfully conform to discipline, and are desirous of improving themselves in every way when embarked for their annual drill.

In some places they might supply the place of the Coast Guard temporarily, if that force should be suddenly embarked.

They might furnish guards at rendezvous and places of embarkation to preserve order. Many of them have become expert artillerists.

I think the movement assists in making the naval service better appreciated and understood at certain places, and consequently increases the popularity of the Navy generally, which, if more seamen were required for ships of war, might be of great value in facilitating fresh entries.

A reserve of
ships in
Australia

In my judgment, Captain Colomb is the advocate of a wise policy. The Imperial and Colonial Governments should combine to create a fleet of sea-going ships, which should be kept in reserve in the harbours on the Australian station. Torpedoes and torpedo boats should be

provided for harbour defence. The Colonial Governments should man the sea-going ships stationed in their own harbours with their Naval Reserves, and they should provide the personnel necessary for harbour defence by the organisation of corps of Naval Artillery Volunteers, after the model of those which have been successfully established in London and Liverpool.

The number of sea-going ships and torpedo boats, and the forces of Naval Reserves and Naval Artillery Volunteers which would be necessary to man them, is a subject worthy of mature examination by a Royal Commission. Such a Commission should include, not only officers of acknowledged capability to deal with technical questions, but representatives who should be authorised to express the views of the colonists with reference to the proportions in which they would be prepared to contribute to the expense.

A Royal
Commission
to consider
the subject

I wish to insist emphatically on the importance of the work which would devolve on such a Commission. We cannot conceal from the world the wealth accumulated in the colonial capitals, all of which lie on the sea-board. Their inhabitants possess all the spirit and resources necessary to repel an attack, but these places are at present defenceless. Floating and stationary defences cannot be designed, a Naval Reserve or Militia cannot be organised, without naval and military advice. The colonies having no body of officers to assist them in such a task, it is for the mother-country to take the initiative in the discharge of the urgent Imperial duty of preparing a scheme for the mutual self-defence of all the dependencies of the Empire.

Importance
of organ-
ising a
scheme of
defence

I am not competent to enter into the details of such a scheme as the Royal Commission which I recommend would be enabled to prepare. A degree of local and

professional knowledge which I cannot pretend to possess, and which, indeed, cannot be combined in any individual, would be required in the preparation of a satisfactory plan. As an example of what might be done, I will, however, venture to refer to some notes which I made on the formation of a Naval Reserve in Canada, after visiting the ports in the Gulf of St. Lawrence in 1872.

Resources
of Canada
in ships and
seamen

It is believed that in the Canadian Dominion there are not less than 87,000 seafaring men. In 1872, about 1,000 decked vessels and 17,000 open boats, manned by 42,000 men, were employed. On December 31, 1876, the Canadian Dominion possessed 6,952 vessels, of 1,205,565 tons. During the year 1876, 480 new vessels, of 151,012 tons, were built in the Dominion. The value of the fish exported from Canada in the same year amounted to 1,000,000/. The value of the exports of the same class from Newfoundland in 1875 was 1,340,000/.

Newfound-
land fisher-
men

It is stated in the annual report of Governor Hill for 1872, that about 10,000 men are engaged in the seal fishery of Newfoundland, and that this number includes almost every available able-bodied man on the island. The total male population, it should be added, is 75,000.

Could drill
during
winter

The rigorous climate of Canada and Newfoundland throughout their long winter season makes it impossible for fishermen to follow their regular vocation. The long interval of enforced idleness during winter would afford an admirable opportunity for regular attendance at drill, without interfering with other lucrative employment. A vigorous effort should be made to enrol these colonial fishermen in the Naval Reserve of the British Empire. They are thoroughly inured to the hardships

of the sea by the severe weather which frequently prevails on their native shore. No subjects of the British Crown are more loyal and devoted. There would be no difficulty in giving to the fishermen of Newfoundland and the maritime provinces of the Canadian Dominion an opportunity of embarking for their annual drill at a port easily accessible from their own homes. A vessel should be commissioned specially for the purpose of training seamen who have joined the Naval Reserve from Newfoundland, from the ports in the Gulf of St. Lawrence, and from Quebec, Montreal, and other places on the great river. The vessel should be of the corvette class, having a covered deck in which the battery of guns would be placed. In such a vessel the drills might be carried on with regularity in the most severe weather. The drill-ship would be stationed during mid-winter at St. John's. The harbour is admirably sheltered and a large population of fishermen is congregated in the town and its vicinity. During a portion of the winter the drill-ship should be moved to other points on the coast where the fishermen are settled in large numbers. Thus the members of the Colonial Naval Reserve would have an opportunity of going through the annual course of drill, without being exposed to the hardship of a long sea-voyage to St. John's in their small fishing-boats in mid-winter. Along the coasts of Newfoundland there are numerous admirably sheltered harbours which are rarely frozen up. An anchorage might be selected for the training-ship both in Placentia Bay and in Trinity Bay, perfectly secure, and easily accessible to the large numbers of British seafaring men dispersed along those distant shores. As the spring approached, and the navigation was opened in the Gulf of St. Lawrence, the ship could proceed from harbour to harbour along the

Drill-ship at
St. John's

southern shores of the Gulf. At Sydney, Charlottetown, and Gaspe, many seamen could be enrolled for the national Reserve. It should be arranged that the drill-ship should visit the harbours mentioned sufficiently early in the season to enable the seamen sailing from those ports to go through their annual drills before the navigation of the St. Lawrence was fully open. The Reserve men might thus have the opportunity of attending on board the training-ship without suffering the serious inconvenience which would be felt if they were taken from their employment afloat in the season of open navigation. Another similar training-ship should be stationed at Halifax, which should visit the numerous harbours on the coast of Nova Scotia and in the Bay of Fundy in the winter season, when multitudes of fishermen are compelled to remain on shore in consequence of the inclemency of the weather.

Halifax

We have not neglected to avail ourselves of the services of our colonial population for the purpose of increasing our military resources. We have enrolled large bodies of men belonging to races distinct from our own. There can be no sufficient reason for neglecting to recruit for the Navy among the vast numbers of loyal Englishmen who, animated by a splendid spirit of enterprise and adventure, have settled on the extensive coasts of our Canadian Dominion.

M. Bourniot
on fishing
fleets of
Canada

In a lecture delivered at the Royal Colonial Institute, on February 4, 1873, M. Bourniot, a member of the Canadian Senate, remarked that : ' In the men that sail the fishing fleets of Canada we see the elements of a very powerful marine, which will be found invaluable in times of national danger. It may be estimated that the total strength which the fisheries employ throughout all British North America is composed of some 70,000

men.' M. Bourniot was of opinion that there was no reason why training-ships, supported by the local Governments, should not be started in the colonies, if the system were found to work well in the United Kingdom.

The policy recommended seems to be in consonance with the views expressed by Lord Elgin, who, when Governor-General of Canada, argued with so much force on the advantages to England and her colonies of an intimate union between them. 'Is the Queen of England,' he wrote, 'to be the Sovereign of an Empire, growing, expanding, strengthening itself from age to age, striking its roots into fresh earth, and drawing new supplies of vitality from virgin soils? Or is she to be, for all essential purposes of might and power, Monarch of Great Britain and Ireland merely?'

Lord Elgin
on the
colonies

The organisation of a Naval Reserve in our North American Colonies is not only to be desired as a means of adding to our naval strength for Imperial purposes, but also for defending the colonies themselves. All our colonies, including India, should have a defensive force of their own. Organisation beforehand is essential to success in war. By the bestowal of infinite pains on her military organisation, Prussia, which seemed for ever fallen after the battle of Jena, turned the tide of fortune in 1815, and, after the campaigns of 1866 and 1870, has become the greatest power of Central Europe.

It is one of the great recommendations of the scheme which I have advocated on this occasion, that it need not involve the country in a lavish expenditure. It is well to prepare in advance plans of earthworks to be thrown up when required, and to organise corps of Naval Volunteers. It does not follow that we should undertake the construction of the extravagant fortresses

No large
expenditure
required

Sir Robert
Peel

which surround our arsenals at home, or withdraw a single man from the well-rewarded labour-market of the colonies. To build fleets and forts, and to maintain armies in every dependency of the Crown, would be an exhausting and an unnecessary effort. I remember, and approve, the language held by Sir Robert Peel in 1850, when he said : 'I believe that in time of peace we must by our retrenchment consent to incur some risk. I venture to say that if you choose to have all the garrisons of all your colonial possessions in a complete state, and to have all your fortifications secure from attack, no amount of annual expenditure will be sufficient to accomplish your object.'

Military
Volunteer
movement

Since the date of Sir Robert Peel's speech, that noble Volunteer movement, one of the most honourable features in the recent history of this country, has been originated. A quarter of a century ago the voluntary submission to drill and discipline of large masses of men, in numbers far exceeding those enrolled in the regular Army, was not anticipated by British statesmen. By the extension of the Volunteer movement, garrisons can be maintained in the largest fortresses and in the most distant outposts, without adding in any appreciable degree to the charges on the Imperial and Colonial revenues.

Instructors
from home

The mother-country could readily furnish a staff of officers and instructors for the purpose of training the Colonial Naval Reserves. The number of officers required must depend on the strength of the force which it is deemed expedient to raise. In whatever numbers they may be wanted, they can be supplied from the ranks of those who have retired from the active list, or who are, for the time being, on half-pay. The presence

of a body of naval officers in our colonies will form a valuable link with the United Kingdom.

They will carry with them the spirit of discipline and devotion to their country which they have acquired from service in the Navy, and they will help to keep alive its illustrious traditions in those young communities, in which it is so important to create a high tone of morality and conduct. The example of her great men is the most valuable inheritance of a nation, and in the career of many of our sea officers the highest moral excellence has been combined with dauntless bravery and skilful seamanship.

Readers of naval story will be familiar with the fine passages in which Southey concludes his biography of Lord Nelson. He tells us how, on the sunny morning of October 21, 1805, as the British fleet was bearing down on the formidable array of ships under Villeneuve, Nelson withdrew to his cabin, and, looking for death with almost as sure an expectation as for victory, piously discharged his devotional duties. You know with what calm courage shortly afterwards he entered into battle, and with what conduct and valour our officers and men followed their illustrious chief to victory. The battle of Trafalgar, though considered by Southey as the most signal success that ever was achieved upon the seas, was dearly bought by the death of Nelson ; and yet, as his biographer most truly says, 'He cannot be said to have fallen prematurely, whose work was done ; nor ought he to be lamented, who died so full of honours, and at the height of human fame. The most triumphant death is that of the martyr ; the most awful that of the martyred patriot ; the most splendid that of the hero in the hour of victory ; and if the chariot and the horses of fire had been vouchsafed for Nelson's translation, he

Nelson's
example

could scarcely have departed in a brighter blaze of glory. He has left us, not indeed his mantle of inspiration, but a name and an example which are at this moment inspiring thousands of the youth of England, a name which is our pride and an example which will continue to be our shield and our strength.'

A link with
the Navy

That the Navy of our own time contains many brave men, prepared to serve their Queen and country in the spirit which animated Lord Nelson, we cannot doubt. You remember how the gallant Burgoyne refused to enter the boat in which the sole survivors of the crew of the 'Captain' were saved. Humanity to the savage and fortitude in death were conspicuously illustrated in the closing hours of Captain Goodenough. But the occasions which brought out the high qualities of Lord Nelson are happily rare. The annals of a nation must be long in order to furnish many examples equally illustrious. Our share in the honour which belongs to the descendants of such men is a privilege of high value; and it will surely be one of the strongest inducements to the formation of a Colonial Naval Reserve, that a link will thus be created with a Navy possessing the splendid traditions which belong to the British service.

PART IV

*AUXILIARY CRUISERS. COLONIAL DEFENCE
AND COALING STATIONS. NAVAL TRAIN-
ING AND EDUCATION. NAVAL MANŒU-
VRES*

I

AUXILIARY CRUISERS

1. THE MERCANTILE MARINE CONSIDERED AS AN
AUXILIARY TO THE ROYAL NAVY

PAPER READ AT THE ROYAL UNITED SERVICE INSTITUTION,
JUNE 23, 1876

HAVING previously written a long paper with reference to the personnel of the merchant service, and its actual condition so far as it would be appreciated by an analysis of the Parliamentary literature on the subject, I feel that it is not necessary for me now to do more than give a short statement of the strength of the merchant service in regard to the ships. Of course the review of the situation in regard to the merchant steamers is exceedingly incomplete unless those vessels are considered from a naval architect's point of view, and also from a naval officer's point of view. I am not in a position to state to this meeting, as my friend Mr. Barnaby could,

II.

Q

if he were not bound by official reticence, what the value of these vessels would be with regard to the power of carrying guns, and still less am I able to treat the subject from a naval officer's point of view, and to indicate to the meeting the kind of armament which would be most suitable for vessels of the kind which we have to take into our review. It is proposed in the present paper to give a brief review of the resources we possess in our merchant navy for home defence and for the protection of our commerce. Some may think that we are so secure that preparation for the emergency of war is superfluous. We ought not, however, to be over-confident, for, as Lord Palmerston wisely said, 'to imagine that we are safe from invasion now without precautions, because hitherto we have prevented it by precautions, is the greatest of all possible absurdities.'

Steam ton-
nage of
different
nations

The steam tonnage of the British Empire, according to the latest returns, is 1,825,000 tons; that of the United States for over-sea foreign trade, 193,000 tons. France has 516 steamers, of 188,000 tons, and Norway has 199 steamers, of 39,000 tons. Our larger vessels are at least as well adapted for conversion into cruisers for the protection of commerce as the trading steamers of other nations are adapted for conversion into privateers. Our merchant navy list includes the following:

Tons register				Number of Steamships
3,000 tons, and above	.	.	.	8
2,500 " to 3,000 tons	.	.	.	24
2,000 " " 2,500 "	.	.	.	55
1,500 " " 2,000 "	.	.	.	165
1,200 " " 1,500 "	.	.	.	167
Total				419

It may be presumed that all these ships could carry at

least two armour-piercing guns, and in addition, a considerable armament of the 64-pounder gun, which, at the present time, seems to be the favourite weapon in the Navy for vessels not intended to engage ironclads.

I may, perhaps, here venture to interpose an observation upon the much-debated question of armament. Many naval men are of opinion that armour-piercing guns should be mounted in every vessel in the service. They think that there is safety in numbers ; and that, however hopeless it may seem for a small unarmoured vessel to engage a heavy ironclad, circumstances may arise in which a flotilla of small vessels, armed with powerful guns, might inflict fatal injury even on an ironclad. It is to be remembered, that the large vessel carries very few guns, and that our most powerful naval artillery has become so ponderous, and the range of view so limited, since the introduction of armour, that perfect accuracy of aim cannot be relied upon, especially should the fire be directed against a small gunboat moving rapidly on an irregular course. Hence a large vessel in narrow waters might suffer most seriously from a combined attack by a flotilla of gunboats of the 'Coquette' class, or a squadron of cruisers of the 'Opal' type. It would seem desirable, therefore, to introduce a mixed armament, at least in some of the vessels which are now armed exclusively with the 64-pounder gun.

To return to the merchant navy, it would be a statesmanlike measure on the part of the Admiralty to enter into communication with the owners of ocean steamers, and to endeavour to agree upon terms for the hire of such vessels in the event of war. As it has been thought expedient to engage a certain number of the merchant seamen to serve in the Navy, by giving them an annual retainer during peace ; so it might be worth

Armament.
Heavy or
light guns

Communication between
Admiralty
and ship-
owners

while to subsidise the owners of steamers adapted to carry an armament, in consideration of their undertaking to hold their ships at the disposal of the Government in the event of war. No less than 640 steamers were hired by the Government of the United States during the civil war, and without these vessels it would have been absolutely impossible to have blockaded the coast of the Southern Confederacy.

Modifica-
tions in new
steamers

What occurs to me as important in carrying out this suggestion is this, that admitted by far the greater number of merchant steamers are, when built solely for mercantile purposes, very imperfectly adapted to any service of war, it would probably be an expedient course for the Government to endeavour to enter into communication with shipowners at a time when they were contemplating building new vessels, so that there might be introduced in the original design those necessary modifications which would enable the ships to carry guns. No doubt shipowners would say, 'These things do not advance our interests in the least ; we look simply to carrying passengers and cargo, and we are not prepared to alter our designs.' To that, of course, the ready answer is, it is a mere question of expense ; and if the Government be prepared to pay the expense for these modifications, and if the vessel be not injured by them for commercial purposes, I take it there would be no objection on the part of many merchants to do it, especially if the Government were prepared to pay a sufficient sum by way of retainer, enabling them to make use of these vessels for a stipulated amount in case of war. Of course such a suggestion means expense, but it may be better that the public money should be spent in that way. I take it, for a given sum of money you would have a very much larger number of vessels at your dis-

Government
to pay a
retainer

posal than if you built vessels expressly and solely for the purpose of war ; and whereas an unarmoured vessel may be utilised as a merchant vessel in time of peace, it is quite certain that no ironclad can be utilised for that purpose. The question therefore is, whether it is not desirable to spend as large a sum available for shipbuilding as possible upon vessels which are exclusively of the fighting class, and to endeavour to supplement the fighting class by subsidiary vessels to be partly engaged in time of peace in the merchant service. Of course these things present themselves to everybody in the House of Commons from a financial point of view ; perhaps they do not strike naval officers in the same way ; but what we have to consider is that the sum available for shipbuilding is not an unlimited quantity. There is only so much money available. You may have to increase the Estimates ; we have increased the Estimates ; we are increasing the Estimates ; and I dare say we shall increase them still more ; but even assuming that we are to proceed in the direction of further expenditure, still, after all, the sum of money is limited, and no one knows it and feels it more keenly than those who, like Mr. Barnaby, have to rack their brains year after year in order to produce the greatest amount of force for the money placed at their disposal. Therefore it is worthy of consideration whether you cannot provide your unarmoured fleet in part by some alliance and partnership with the merchant service.

Limit to
Naval
Estimates

All naval officers are agreed in attaching more or less importance to the quality of speed in unarmoured vessels. The 'Inconstant' was built specially with the view to attain an unprecedented speed. Now, in point of speed and in coal-carrying capacity, the fine steamers employed in the North Atlantic trade present very

Importance
of speed

remarkable elements of power. In his exhaustive work, Mr. Lindsay has published details, giving the average passages of the principal lines of ocean steamers between Liverpool and New York. The speed and regularity maintained are truly marvellous. I give a few figures, extracted from Mr. Lindsay's tables, which will serve to show what an immense reserve of power we possess in our merchant navy for the emergency of war.

Speed of the
great liners

The distance from Queenstown to Sandy Hook is 2,777 miles, and it was performed in the years 1873 and 1874, outwards and homewards, by the steamers of the White Star, Cunard, and Inman lines, at the average speed shown in the following table.

Perform-
ances of the
'City of
Berlin'

As an example of the marvellous perfection to which ocean steaming has been brought by the enterprise of British shipowners, unaided by subsidies from the Government, the recent performances may be cited of the 'City of Berlin':

Log of the Inman steamer 'City of Berlin.'

Queenstown to Sandy Hook			Sandy Hook to Queenstown		
Days	Hours	Minutes	Days	Hours	Minutes
7	18	2	7	15	28
Date		Distance run	Date		Distance run
1875		Miles	1875		Miles
September	18 .	303	October	3 .	388
"	19 .	367	"	4 .	362
"	20 .	376	"	5 .	366
"	21 .	368	"	6 .	361
"	22 .	380	"	7 .	381
"	23 .	324	"	8 .	347 ¹
"	24 .	381	"	9 .	362
"	25 .	380	"	10 .	253

White Star
line

The performances of the White Star line have been equally remarkable for the extraordinary speed attained.

¹ Fresh gale and heavy beam sea.

Line	Outwards						Homewards								
	1873			1874			1873			1874					
	Average time		Sail-ings	Average time		Sail-ings	Average time		Sail-ings	Average time		Sail-ings			
	Days	Hrs.		Mins.	Days		Hrs.	Mins.		Days	Hrs.		Mins.		
	White Sta	.	.	.	47	9	22	53	47	8	22	39	50	8	20	42
Cunard	.	.	.	52	10	16	54	53	9	7	59	52	9	5	46
Inman	.	.	.	50	10	22	1	52	10	0	3	51	9	10	50

In each year there were a few voyages of exceptional duration :

Time	Outwards						Homewards					
	White Star		Cunard		Inman		White Star		Cunard		Inman	
	1873	1874	1873	1874	1873	1874	1873	1874	1873	1874	1873	1874
	2	2	4	6	4	7	0	0	0	0	2	0
Over 12 days	.	.	.	.	.	.	.	.	.	.	.	.
" 13 "	.	.	.	.	.	.	.	.	.	.	.	.
" 14 "	.	.	.	.	.	.	.	.	.	.	.	.

In 1873 the 'Adriatic,' sailing west, made the voyage from Queenstown to Sandy Hook at the average speed of 18.55 statute miles per hour; and in March, 1872, the same ship made the passage, sailing east, at the rate of 18.9 miles per hour. The regularity of this vessel's passage is not less remarkable than the speed, the average time for twenty-nine voyages from New York to Queenstown being 8 days 10 hours 57 minutes.

'Adriatic'
and 'Germanic'

The shortest passage was in October, 1874, occupying only 7 days 23 hours 12 minutes. This passage was surpassed, by a few minutes only, by the 'Germanic,' which made the run from Queenstown to Sandy Hook in August, 1873, in 7 days 23 hours 7 minutes. The greatest run in a single day recorded by Mr. Lindsay was made by the 'Adriatic' on April 10, 1873, on which day she steamed 396 miles, the course being S. 61° W., with the wind N., force 6.

Coast
steamers

These particulars will have sufficiently shown what the large steamers of our merchant service can do. We are equally strong in the means of coast defence. The flotilla of steamers in our home trade includes 5,530 vessels under 50 tons, 4,173 over 50 and under 100 tons, and 1,670 steamers over 100 and under 200 tons. If all those of sufficient strength were armed with one or two guns, no hostile fleet could approach our shores with impunity.

Capability
of tugs to
carry guns

A report was made to the Admiralty some years ago as to the adaptability of the tug and ferry-boats of the port of Liverpool for conversion into gunboats. A large number were found to be capable of carrying the heaviest gun at that time mounted on board ship. The 81-ton gun has since been constructed. A weapon so formidable can only be carried in a vessel of special construction and of large tonnage. The torpedo, however, has

to a considerable extent neutralised the increased power of the gun, and has furnished us with the means of arming with a powerful weapon every swift and handy steamer for coast defence. By the use of the torpedo and submarine mine, the narrow, shoal, and tortuous channels of approach to London, Liverpool, Hull, Glasgow, Cork, Bristol, and Cardiff—in short, all the busiest sea-ports—may be closed to the most formidable iron-clads.

Though the subject is more interesting to a naval officer than to a naval architect, I cannot omit from the catalogue of ships required for the Navy a certain number of sailing vessels, to be attached to the receiving ships at Devonport, Portsmouth, and Sheerness, for the purpose of taking the seamen to cruise in the Channel in summer, and to Lisbon and Gibraltar in winter. Such vessels become more and more necessary for training purposes at a time when it seems probable that the fighting Navy will be largely composed of mastless ironclads.

Sailing vessels for training

Having elsewhere shown the great superiority of our armoured fleet, I may here, in conclusion, advert to the relative condition of the Navy in unarmoured vessels. The Americans have only 39 unarmoured cruisers, and very few of these have a speed of 10 knots, a considerable number being unable to steam more than 7 knots an hour.

Unarmoured cruisers

Probably gallant gentlemen in this room have had in their hands Admiral Porter's Annual Reports upon the condition of the United States Navy, and those who have read those publications must be aware of his great disappointment at the want of speed which characterises the unarmoured vessels which are placed at his disposal by a legislature which is even more narrow-minded than the British.

The Russians have but few unarmoured cruisers, and their entire fleet in the Baltic and Black Seas only carries 271 guns. The Germans have only 11 corvettes and 4 despatch boats, carrying altogether 145 guns. The Turks are practically without a cruising squadron.

I say that with deference to those who know more about these things than I do ; but to the best of my belief the Turks do not possess any unarmoured cruisers of a kind which we should view with satisfaction if they belonged to our own service. Gallant gentlemen must appreciate the very different view we take of ships when they fight under the British flag and when they fight under a foreign flag. We are certainly more critical with our own ships than with foreign ships. That, perhaps, is quite right.

Our favourable position

When, therefore, we compare our own position with that of other Powers, and when we find that the ships included in the return of vessels building in 1875 will carry no less than 304 guns of a calibre, on the whole, incomparably heavier than that of the artillery mounted in the unarmoured ships of other Powers, it must be clear that our situation both in the present and in prospective can give no just grounds for anxiety to the most susceptible and timid mind. The superiority of our resources will not, however, give us any proportionate advantage without complete and careful organisation.

The value of the mercantile marine as an auxiliary to the Navy

I most sincerely hope that the attention which this Institution is pleased to direct to these subjects may have the effect of promoting arrangements of the kind which I venture to indicate between the Admiralty and the merchant service. I believe that in our merchant steam navy we now possess what might, with a certain amount of trouble and expense, be converted into a valuable auxiliary ; but if we were to take this question

in hand in a masterly, effective, and liberal spirit, I believe that what we possess now is as nothing to what we might have hereafter. The personnel of the merchant service I have already ventured to discuss in a lecture delivered here in February, and the organisation of that personnel as a Reserve has also been treated, no doubt imperfectly, by me, and much more satisfactorily by others, in former lectures delivered in this Institution, and I believe that our labours have borne fruit. Anyhow, the Naval Reserve has been immensely strengthened in the last few years. I wish we could go further in that direction. I wish that every able-bodied seaman in the merchant service could be induced to register his name on the Reserve lists of the Navy. If that were done, if we had our seafaring population as much at the command of the country in an emergency as the seafaring population of France is, of course we should be, in even a greater sense than we are now, the dominant maritime Power of the world.

2. A NAVAL RESERVE OF SHIPS

LETTER TO THE 'TIMES,' JUNE 7, 1879

HAVING lately been permitted to offer some suggestions in your columns on another subject of naval policy, it is with hesitation that I ask you to give me the privilege of addressing the public on the organisation of a reserve of cruisers in our mercantile marine. I have called attention to this question in a recent speech, delivered on the banks of the Mersey, at the head-quarters of the great shipping interest, and I desire to take advantage of a momentary lull in Parliamentary business for the purpose of creating a more general interest in the same important topic.

The mercantile marine part of the Navy

The whole mercantile marine of Great Britain should be regarded as part of our Navy. Every ship which is convertible into a vessel of war, and every British seaman, should be looked upon as a part and parcel of our Naval Reserve. We have already created a reserve of men ; it is necessary to complete the work by forming a reserve of ships. It should be one of the leading principles of our shipbuilding policy to limit the shipbuilding for the Navy, as far as possible, to types which do not exist in the mercantile marine. We must build a sufficient number of cruisers to furnish the necessary reliefs for our squadrons on foreign stations ; but the fleet of cruisers which we maintain in peace could be expanded into a fighting fleet from our reserve of ships in the merchant service.

A subsidy to shipowners

An attempt has already been made to create such a reserve. The Government has signified its willingness to enter all vessels fulfilling certain structural conditions in an official list. This is a step in the right direction. But no pecuniary consideration is offered to shipowners who respond to this appeal ; and unless some substantial encouragement is given, it is not reasonable to suppose that any considerable number of vessels will be built with such modifications as would be required to make them easily convertible into fighting ships.

Structural arrangements in new steamers

Mr. Burns has pointed out the inadequacy of the present proposal. The necessary adaptations of structure should be introduced in the original design. Alterations are always costly and often unsatisfactory. Shipowners should be invited to communicate with the Admiralty when they contemplate building new vessels of a certain tonnage and speed. The designs should be examined, and if they were found to be easily adaptable to war purposes owners would probably consent to

arrange bulkheads, watertight compartments, and bunkers in accordance with the requirements, and, of course, at the expense, of the Government. The ships, having been fitted for the emergency of war service, would be entered in the list of cruisers in reserve, and would be held at the disposal of the Admiralty in consideration of a fair annual payment. Should a vessel be required for active service as a cruiser, the additional sum to be paid for the purchase or charter should be previously agreed upon. It may be objected that the modifications which the Admiralty would probably require would interfere with the accommodation for passengers or the stowage of cargo. I do not think the difficulty would be serious. Bunkers could be so placed as to afford complete protection to the boilers against all but the heaviest projectiles, without in the slightest degree interfering with the facilities for stoking. The multiplication of bulkheads might cause considerable inconvenience in a merchant steamer, but frames could be constructed at certain intervals apart to receive additional bulkheads, which could be easily fitted if the ship were required for war service. In certain cases a shelf-piece might be fitted to receive a moderate thickness of armour-plating, which might be kept in store in readiness to be fixed.

I am well aware of the difficulty of securing attention to new suggestions. Naval officers are unwilling to see any portion of the money voted for the Navy expended on ships which may never carry the pennant. Their aim is to make the Royal Navy sufficient by itself to meet all the naval requirements of the country. It is a natural but an impracticable ambition. Public attention is with difficulty attracted to any subject not directly connected with the passing events of the day.

View of
the Navy

Without the recurrence of disastrous shipwrecks, Mr. Plimsoll would have failed to catch the ear of the public; and until our commerce is cut up by some future 'Alabama,' it is possible that no effectual effort will be made to provide those additions to the cruising strength of the Navy which would certainly be demanded on the outbreak of a war.

3. MERCHANT CRUISERS : CONSIDERED WITH REFERENCE
TO THE POLICY OF MAINTAINING A RESERVE OF
VESSELS BY ANNUAL SUBVENTIONS TO SHIPOWNERS

PAPER READ AT THE INSTITUTION OF NAVAL ARCHITECTS,
MARCH 22, 1893

No more important question could be brought before the consideration of this Institution than that of the policy to be pursued by the British Government in relation to mail subsidies and subventions to the owners of the reserved merchant cruisers.

Merchant
tonnage of
different
States

The tonnage owned by Great Britain includes 9,506 sailing vessels, collectively measuring 3,602,546 tons, and 5,588 steamers, of 8,912,522 tons. The United States, which stand next to us in sailing tonnage, own 3,428 vessels, aggregating 1,166,963 tons. Germany, which stands next in steam tonnage, owns 765 ships, aggregating 1,091,472 tons. Broadly, it may be said that England owns half the mercantile tonnage of the world. When, however, we carry the comparison to those classes of ships on which we should be chiefly dependent in the event of war, and which in peace discharge the great function of linking nations together by the swift and safe conveyance of mails and passengers, our relative position is not so commanding as we could wish. According to the latest returns

published by the Bureau Veritas, the merchant navies of the world possess forty-five steamers exceeding 6,000 tons. Of these ten are French, one Belgian, seven German, and twenty-seven English. Of the ten largest steamships of the world, seven are British. Of the fourteen ocean steamers of nineteen knots speed and above engaged in the Atlantic trade, six are British, five German, two belong to the United States, and one to France. It will be seen that in the largest and swiftest ships we hold no uncontested supremacy. Supported by lavish subsidies, mail steamers sailing under other flags are running a closer race every year with the British lines of ocean steamers.

I have been supplied through the kindness of Mr. Henniker Heaton, M.P., with materials for the following table, giving the subsidies paid for mail services conducted under their national flag by the leading maritime States :

Subsidies for
mail service

Name of State	Amount Paid	Total Foreign Trade of the Country
	£	£
France . . .	1,043,513	300,000,000
Germany . . .	1,000,000	313,000,000
Russia . . .	251,000	111,000,000
Italy . . .	400,000	182,000,000
Great Britain . .	637,000	740,000,000

The subsidies paid by Great Britain are nearly covered by the receipts on foreign and colonial letters.

In addition to the payments under the mail contracts, bounties are paid in several countries both for the construction of ships and in the form of mileage subsidies. The premiums paid by the French Government for the encouragement of navigation averaged from 1881 to 1890 298,000*l.* a year. It is proposed to

Bounties for
new con-
struction
in foreign
countries

extend the premiums for mileage sailed in the international coasting trade where the distances exceed sixty miles, and it is estimated that the increase of expenditure will be not less than 60,000*l.* a year. The number of lines of steamers brought into existence by construction and mileage bounties, though not in receipt of mail subsidies, has increased under the French flag from two to nineteen. These services extend to the Brazils, the River Plate, New York, the South Coast of America, China, and the Pacific. French naval officers applaud the system of subventions because it calls into existence large numbers of steamers which will supply the Navy with skilled firemen, who cannot be obtained from the Conscription Maritime, which consists mainly of fishermen. A similar policy of bounties on construction has been accepted in Italy. The amount paid on the gross measurement of iron and steel vessels built in Italy is 2*l.* 8*s.* per ton. The bounty on marine engines built in Italy is 8*s.* per indicated horse-power, and on marine boilers 5*s.* per pound weight. An additional premium is paid upon steamers of over fourteen knots. Besides the bounties on construction, subsidies are paid for navigation, amounting to little short of 150,000*l.* a year.

European
steamship
companies

Amount of
subsidies
paid to prin-
cipal lines

The leading lines of steamships under European flags are enumerated in the list on page 241.

The great steamship company which heads the list receives but scanty aid from the State. It does, not, however, attempt to perform those splendid but costly feats of ocean steaming which we look for in such ships as are placed on the list of reserved cruisers. The P. and O. Company receives, under contracts with the British Government, 840,000*l.* The Messageries Maritimes Company receives subsidies amounting to 554,000*l.*

Name of Company	Number of Steamers	Aggregate Tons
British India . . .	103	240,000
P. and O.	36	216,000
Messageries Maritimes .	61	202,000
North German Lloyd . .	66	197,000
Navigazione Generale .	106	170,000
Compagnie Générale Transatlantique . . .	66	167,000
Hamburg American . .	86	165,000
Wilson	86	158,000
Austrian Lloyd's . . .	73	128,000
White Star	20	96,000
Cunard	26	86,000

a year. The North German Lloyd receives subsidies amounting to 220,000*l.* a year for services extending to Shanghai, Australia, and all parts of the Mediterranean. On the Eastern routes the speeds do not exceed twelve knots. The Navigazione Generale receives subsidies amounting in the aggregate to 380,000*l.* a year. Their services extend to India, China, Batavia, and all parts of the Mediterranean. The Compagnie Générale Transatlantique receives subsidies amounting in the total to 446,320*l.* The Hamburg American Company receives a subsidy in accordance with services rendered, but the exact amount is not given in the Estimates. The Wilson Line, like the British India, is the noble creation of private enterprise, unaided by the State. The vessels are not capable of high speed, and are not, therefore, convertible into cruisers. The Austrian Lloyd's receives aggregate subsidies amounting to 152,000*l.* The White Star and the Cunard Companies receive payment from the Admiralty for those of their vessels which are placed upon the list of reserved merchant cruisers, and mail matter is paid for at rates settled in their contract. The 'Teutonic' and 'Majestic' receive from the Admiralty about 650*l.*, and from the Post Office, on the average,

1,000% per voyage. The American postal subsidy will give the Inman Line 2,480% per voyage for twenty-knots steamers. By a recent Act of Congress the 'City of Paris' and 'City of New York' were allowed to hoist the Stars and Stripes. By the same enactment it was stipulated that, in consideration of a liberal subsidy, two steamers of 12,000 tons and twenty-two knots should be built in America for the service between the United States and British ports. Three other steamers are to be built in America for the service between New York and Antwerp.

Disadvantage of
British
companies

The competition created by the aid of subsidies constitutes a serious difficulty for British shipowners. By able management such companies as the White Star, Cunard, P. and O., and others have thus far been able to hold their own. It may be necessary to grant larger subsidies in the future for the conveyance of mails under the British flag. It would not be politic to allow these services to be taken entirely out of the hands of our own shipowners by foreign rivals.

Rôle of
armed
merchant
steamers in
war

Subsidised mail steamers cannot be a match for regularly built vessels of war. They have large hatchways, and are not protected by armoured decks and by minute subdivision into compartments. Armed merchant steamers would, however, be formidable enemies to unarmed vessels of the same class. The proper rôle for mercantile auxiliaries was described by Lord George Hamilton in moving the Estimates in the Session of 1889. They would be employed in dogging the footsteps of a foreign merchantman, embarrassing a foe, and keeping touch with a squadron which has broken blockade. For such services they would be absolutely invaluable.

Much might be done to improve the means of pro-

tection in the mercantile auxiliary if the contingency of employment as a war-ship was fully considered in the original design. Decks might be built over the engine- and boiler-rooms of sufficient strength to carry armour, which could be fitted when the ship was taken up as a cruiser. The frames of the ships might be adapted for the riveting up of additional bulkheads. Admitting the imperfections of the mercantile auxiliary in point of protection, the superiority in speed over any existing ship of war is incontestable.

Provision
for improved
defence

During the year 1892 the performances of the fastest steamers in the North Atlantic trade show many remarkable results. The 'City of Paris' may be said to have maintained nearly twenty knots as an average speed. The 'Majestic' and 'Teutonic,' of the White Star Line, have approximately the same speed as the two famous Inman steamers. These fine performances are fairly rivalled, and, if we look to the date of launching, are surpassed, by the 'Umbria,' built in 1884, which recently, on her eighty-second voyage, ran from Queens-town to New York in five days and twenty-two hours. Not more than seven hours have been gained by the liners built subsequently to the 'Umbria.' The 'Touraine' is the greyhound of the French transatlantic liners. She has maintained an average of 19.59 knots between Havre and New York. On the route between Cape Town and Southampton the 'Scot' has maintained an average speed of 17.2 knots.

Remarkable
speed of
great liners

It has been thought expedient to bring the subject treated in this paper under the consideration of the Institution of Naval Architects, because a disposition has been shown in certain quarters to question the policy of subsidising mercantile auxiliaries and giving subventions to mail steamers. Without the help of the

Necessity for
subventions

State it would be impossible to compete with the highly subsidised mail steamers running under foreign flags. Public opinion in this country will probably share the view held in the United States, and which has recently found expression in language which may be appropriately quoted from the report of the Committee of Congress : 'A mercantile marine of our own, ably manned and used by our own people, is a national requirement, essential to a fair participation in the trade of the world, indispensable to wise industrial economy, and vital to the importance and advance of our country.' Nothing can better conduce to the closer union of the mother-country and her colonies, especially her Australasian colonies, than the improvement in the means of communication. Already the feat has been performed by the 'Ophir,' of the Orient Line, of delivering the Australian mails in London in twenty-four days from King George's Sound. The distance from New Zealand by Cape Horn has been covered by the 'Arawa' in less than thirty-five days. If so much can be done by unaided enterprise, it is evident that, with the help of the Government, granted upon conditions which would ensure the building of vessels representing the finest work of our mechanics and shipbuilders, a yet further closing up of the intervals separating the mother-country from her daughter states would be assured. It is difficult to measure the benefits which would result, alike to the commercial, political, and social relations of the British Empire.

If the only object to be held in view were the cutting down of expenditure, it might be possible to relieve the British taxpayer of every charge for the conveyance of mails across the ocean. This question must, however, be regarded under other aspects. To discontinue all

subsidies from the British Government, while the policy now so much in favour in other countries was maintained, would bring us inevitably to this result, that all the ocean steaming at high speed would be performed by foreign vessels held at the disposal of their respective Governments for conversion into merchant cruisers. Our regularly built vessels of war would be our sole defence against such dangerous foes. They could not be multiplied in sufficient numbers without imposing an almost intolerable additional burden upon the Navy Estimates.

II

COLONIAL DEFENCE AND COALING STATIONS

1. THE FUTURE OF CYPRUS

LETTER TO THE 'TIMES,' DECEMBER 26, 1878

HAVING spent ten busy days in Cyprus, having visited all its ports and encampments and traversed its mountains and plains, its sterile and fruitful zones, I venture, through the 'Times,' to present to my fellow-countrymen the results of a personal examination.

As to the policy of annexing Cyprus I offer no opinion. It may, however, be assumed that we cannot lightly withdraw from the charge we have undertaken. The practical question for the immediate future is how best to administer our new acquisition.

Defects as
a military
station

The experience of a single summer has sufficiently proved that Cyprus offers no advantages as an advanced military post ; British troops will inevitably deteriorate in the hot season in this fever-stricken island. It is probable that a situation might be chosen in the mountains of the Troados, not less than 4,000 ft. above the sea-level, where the troops would enjoy comparative immunity from malarial fever. The difficulties of communication impose a limit on the numbers who could be stationed in the mountains, but the sanatorium would be available for the Governor and his staff of English officials during the heats of summer.

Cyprus will not be converted into a naval arsenal, and it contains no harbour for a fleet. It may, however, be used as a coaling station. For this purpose the natural harbour of Famogusta is well adapted. Though the bay is open to the south-east, a space of eighty acres is fully protected by the remains of an ancient mole and by a reef of rocks. With little expenditure, Famogusta might be supplied with facilities for coaling a fleet at least equal to those which exist at Gibraltar. It is scarcely necessary to insist on the importance of coaling stations to a steam-propelled Navy. It is an unfortunate characteristic of the greater number of our recent ironclads that their coal endurance is insufficient. We have no masted ironclads which carry coal enough for five days' steaming at full speed. If, therefore, we should find ourselves engaged in naval operations on the eastern shores of the Mediterranean, a supply of coal at Cyprus would be a valuable resource.

Facilities of
Famogusta
as a coaling
station

Although unhealthy for British troops, it does not follow that Cyprus presents no military advantages. The garrison will probably consist of a Turkish regiment. In time of war such a regiment might become the nucleus of a larger force. Every Turk serving under our colours could be sent out as a recruiting agent, and assist in gathering together an army from the adjacent coasts of Asia Minor.

I shall not attempt to discuss the motives of State policy which induced the Government to send the Indian troops to Cyprus. It may be assumed that the number of British troops was determined with reference to the numbers of the Indian contingent, rather than the necessity of overawing the scanty and spiritless people of Cyprus by an overwhelming display of military power. The employment of so large a force has been

Condition
of troops
landed in
Cyprus

attended with deplorable consequences. The Commissariat as usual broke down under the strain, and the sanitary condition of the troops has been most unsatisfactory. The army was landed in the hottest season of an exceptionally hot year. Every correspondent of the Press has enlarged upon the miseries endured by the parties of twelve men, who were almost baked alive under our English bell tents in the burning sun of Cyprus. At Port Papho I had an opportunity of talking at leisure and unrestrainedly with several men in the ranks of the 42nd Highlanders—men who had escaped the fever and were looking forward bravely to the future. My informants told me they had slept for three months without mattresses, after spending the day exposed to the sun. They lay down on a blanket spread on the bare ground. After a short interval of ten minutes their heated bodies were bathed in a cold sweat, and every morning there were more victims to the malarial fever.

Defects of
Commissariat

I cannot discuss the subject of the Commissariat without a few observations on the organisation of the department. It is impossible to exaggerate the importance of an efficient Commissariat. The sufferings of our army in the Crimea are fresh in our recollection as an example of the results of bad management in this branch of the service. The Duke of Wellington's despatches are a striking testimony of the solicitude bestowed by our great captain on the essential details of equipment and supplies. The British army, with all its accumulation of untoward experiences, seems destined to suffer from a repetition of former blunders whenever a severe strain is imposed on its Commissariat system. Though the subject has been examined again and again by departmental and Parliamentary committees, no effectual remedy has been supplied. I venture to suggest that

there is but one solution. The supervision of the Commissariat should form part of the duty of the general staff of the army. The chiefs of the Commissariat service in every important military expedition should be soldiers of wide experience and great administrative capacity. The head of the Commissariat Department, when the army landed at Cyprus, should have been a field officer—one of the ablest men on the staff of Sir Garnet Wolseley, and he should have been supported by military officers of the same stamp.

The commercial branch of the Commissariat might remain in the hands of civilians. The duty of seeing that all necessary stores and supplies are provided ; that all stores not necessary for the particular service are rejected ; and that sufficient transport is provided for taking the field, can only be properly carried out by an officer capable of grasping the situation from a military point of view. The stores piled up on the beach at Larnaca were as superfluous in some articles as they were deficient in others. While mattresses were wanting, there were iron coal-boxes enough for the winter quarters of a large force in Central Asia.

Should be
under a staff
officer

In consequence of the withdrawal of the troops and the temporary adjustment of the Eastern Question, the Governor of Cyprus and his admirable staff have been much employed in civil capacities. It was necessary to make an exhaustive examination of the proceedings under the former Government and to extract information from reluctant witnesses, who might not have paid the same deference to civilians which they yielded to the military authorities. The ground has thus been prepared for the civil administration which will be permanently established in the island.

The resources of Cyprus have been described in

The re-
sources of
Cyprus

ample detail by many writers. It possesses a large tract of rich alluvial soil, well adapted for the growth of wheat, cotton, and other products. Wherever an abundant supply of water can be obtained, as in the oasis of Kithrœa, Cyprus will vie with the richest valleys of the adjacent continent. The orange and the olive abound and flourish, and a certain venerable plane-tree, of colossal proportions, gave valuable testimony to the timber-growing properties of the soil. Many villages of Cyprus share, though in an inferior degree, in the advantages Nature has so lavishly given to this favoured district. Water seems easily obtainable in all parts of the island. It may be that the prevalence of malarial fever is due to the copious supply of water not far below the surface of the soil.

Irrigation
required

Much may be done by irrigation to give fertility to a wider area from the existing sources, and it is possible that other springs may be discovered. The harvest, however, must mainly depend on the rainy season, and the winter sometimes passes without a shower. No rain fell in Cyprus in the three consecutive years 1859-60-61. The inhabitants migrated *en masse* to Syria and Egypt, and many have never returned. In ordinary years and in certain districts the Cypriotes enjoy a fair measure of prosperity, the fruits of which, in justice to the former Government be it said, seem to have been far more liberally enjoyed by the Greeks than by the Turkish community. The liability, however, to drought is a grave obstacle to any large increase of the population. In the famine years, 1859-61, supplies of biscuit were distributed by the Government. An English administration would be expected to relieve the destitute on a still more liberal scale. These considerations seem to point to extensive plantations, as the first

step to be taken for the improvement of the island. Cover the barren hills and slopes with forest, and an increase in the rainfall will follow. The bare and thirsty soil repels the clouds when it most needs their refreshing showers. Other public works must gradually follow, such as piers, lighthouses, a service of small steamers between the numerous little towns on the coast ; and, later, light narrow-gauge railways connecting the corn-growing district with Larnaca and Famogusta.

Plantations
and public
works
necessary

I pass from these details to a political question of high importance. Is our occupation of Cyprus to be permanent, and on what conditions are we to remain ? For the reasons already given, it may be assumed that our protectorate will continue.

The essential matter, therefore, is that our flag should be regarded by the people as the symbol of good government. It is impossible, however, that the condition of Cyprus can be materially improved so long as it remains subject to an annual tribute of 100,000*l.* to the Ottoman Empire. The tribute absorbs the lion's share of the total revenue of 178,000*l.*, and several items of receipt ought to disappear from the budget of an English administration.

The Turkish
tribute

Among the taxes enumerated by Mr. Hamilton Lang as either unjust, burdensome, or unproductive are the following :

Taxes

1. The Verghi, or personal tax, levied upon all householders, or breadwinners. This tax falls with disproportionate severity on the labourer as compared with his employer.
2. The tax on sheep and goats is exorbitantly heavy.
3. The indemnity paid by the Christian population for exemption from military service cannot be maintained.

4. The tithe on the products of trees, the abolition of which would do more than any other measure that could be devised to encourage the planting and the more careful management of forests.

Receipts

The receipts from the above sources are :—Verghi, 30,000*l.* ; sheep tax, 6,000*l.* ; exemption from military service, 7,000*l.* ; tithe on forests, 7,000*l.* ; total, 50,000*l.* The duty on exports impedes commerce, while it yields no revenue.

Burden of the tribute

If the Government of Cyprus were relieved of the tribute which we have unfortunately consented to pay, all injurious taxes might be remitted, the Custom houses closed, and the island made a free port. Such a step would secure to Cyprus a commercial development similar to that of Singapore, Aden, and other ports, where the same enlightened policy has been adopted. Cyprus might then become what Hong Kong is to China and Singapore to the Eastern Archipelago ; it might be the principal commercial depôt for Syria and the southern parts of Asia Minor.

Remission of taxation

The first instalments of revenue would probably be applied to the best advantage in remissions of taxation. It is quite superfluous, however, to point out how many sanitary and other public works must remain in abeyance, each of small extent but not the less valuable locally, unless a considerable addition be made to the resources at present available. Those resources cannot be increased by laying new taxes on a depressed and impoverished population. The remission of the tribute is the only legitimate means at our disposal.

It may be urged that the taxes now levied are moderate in amount compared with the sums extorted when the island was a dependency of the Porte. It does not follow that the tribute is a just demand be-

cause the people have been accustomed to pay it, and have been able, though with difficulty, to furnish the sum demanded. A tax may be not only tolerable but even advantageous to a people when the proceeds are judiciously expended for their benefit. It is better to pay a police-rate than to hire a watchman, to be rated by the Metropolitan Board for the arterial drainage of London than to hire a scavenger, to pay a water-rate than the hire of a water-cart. But when the revenue is swallowed up in tribute to a foreign ruler, who has been relieved of all reciprocal duties and responsibilities, it can scarcely be disputed that the people are subjected to an oppressive taxation. The lapse of time has enabled most contemporary English politicians to recognise, in the refusal of the North American colonists to submit to taxation by an Imperial legislature in which they were not represented, the high-spirited conduct of an independent people. If the courage and the energy of the Anglo-Saxon race were infused into the Cypriotes, they would not long rest content with the convention or treaty we have negotiated on their behalf.

In relation to this question of tribute, the British administrators of Cyprus are not in a position in which Englishmen can take a pride. They hold the unworthy office of tax-gatherers for a bad Government. The continuance of the tribute has been defended on the ground that the former revenues of the island showed an available surplus. It must be remembered, on the other hand, that the local expenditure of the Turkish Government was reduced to a point at which it cannot be maintained under English rule. Cyprus was entirely neglected ; nothing was done to develop the resources of the island ; nothing for the health, the education, or the general welfare of the people. All these things must

Invidious
position of
British
occupation

now receive attention. The Chancellor of the Exchequer has proclaimed it in Birmingham, and to Europe, that we have come to Cyprus to show what can be accomplished under English rule for a long-neglected people. We must govern in the spirit of these generous professions. The overtasked and zealous officers we have sent to the island are only too sensible of the many needs of the population. Their plans cannot be carried into execution without funds.

Acquisition
of Cyprus
an Imperial
policy

In assuming the protectorate over Cyprus we were influenced solely by considerations of Imperial policy ; our object was to strengthen our influence in the East, and we must accept the financial consequences of the step we have taken. Whether we take a lease of Cyprus or purchase it, we are carrying out a great scheme of policy with which our local government in the island has had no concern, and in respect of which it ought not to be loaded with pecuniary responsibility. We have a precedent in the purchase of the Suez Canal shares, where a large sum was expended to obtain admission for the representatives of England to the council table of the Canal Company. If the purchase of the Canal shares was justifiable, with much more reason can the payment from the Imperial exchequer of the purchase-money for Cyprus be defended.

A revision of
the treaty
necessary

A revision of the treaty under which our occupation of Cyprus has been commenced is urgently required. We cannot continue with honour in the position of tributaries and vassals of the Sultan. Rights and claims of the most complicated nature, as it has been explained by Mr. Forbes, have been reserved. We cannot see the mineral and agricultural resources of Cyprus developed by British skill and capital, under the protection of our flag, and allow the fruits of these

enterprises to be appropriated by the Sultan in the form of royalties on mines or participation in the increased rental secured under our improved administration. There is only one way out of the entanglements and complications into which we shall inevitably fall under the existing treaty. The full sovereignty over Cyprus must be purchased by England. The sum to be paid is a subject for negotiation. Whatever the amount, a still larger expenditure would have been thrown upon the Imperial exchequer in carrying out the plans originally shadowed forth, but now so wisely abandoned, of creating a new military and naval station in Cyprus. The more or less profitable return on the sum invested in Cyprus is a secondary consideration. We did not come here as traders or speculators in land, and our conduct will not be influenced by commercial considerations. It is obvious, however, that as the population grows and its wealth accumulates, so the trading interests of England will be in turn promoted.

Full sovereignty to be acquired

The acquisition of Cyprus may or may not have been an act of wisdom. That question it is not my present purpose to discuss. All the arguments in favour of the transaction will be fortified, and the objections mitigated, if we can show a gradual recovery from a state of impoverishment and decay to the palmy prosperity of the Lusignan and Venetian rule.

How, then, is the work to be done? It is not to be done extravagantly or impatiently, not by model farms, nor by costly public works, nor by the introduction of colonies. Projects of this nature, if they can be shown to be remunerative, will all be carried out in due time by private enterprise. The Government will have fully accomplished the task which properly belongs to it if life and property are made more secure and taxation

Progress must be gradual

lighter in Cyprus than in any other community in the East. A population placed in this favoured situation will need no other inducement to make the most of the varied resources of the soil, while enterprising emigrants will come, in numbers as large as the land is capable of maintaining, from the adjacent shores of Asia, and from our over-peopled dependency of Malta, to share in the revival of prosperity brought about under British rule.

'Sunbeam,' Morphou Bay, Cyprus, *November 16.*

2. CONDITION OF CYPRUS

SPEECH DELIVERED IN THE HOUSE OF COMMONS,
MARCH 24, 1879

HAVING recently visited Cyprus, I ask leave to present to the House the result of a personal examination of our most recent acquisition. I went to Cyprus unprejudiced and unbiased, and I came away convinced that in our hands the island will certainly be prosperous. As a place of arms it is useless. As a coaling station it may prove valuable.

Climate of
Cyprus

Cyprus is not adapted for a place of arms, partly because of its climate. There can be no question as to the miserable condition to which the troops who first landed were reduced. It may be that the summer of 1878 was exceptionally unhealthy. The troops would doubtless have suffered less in permanent barracks, or in the mud huts of the natives. It is now proposed to build barracks on the Troados. Those airy summits may not, perhaps, prove as perfect a sanatorium as Newera-ilya, in Ceylon, but they may at least be as healthy as Malta or Gibraltar. Assuming that the troops could retain their health on the Troados, it is scarcely conceivable that they could occupy such a

position in any considerable numbers without a large expenditure in transport. During my visit to Cyprus I spent two days on the Troados, and remained one night at the monastery of Kikkho, 4,000 feet above the sea-level. At that elevation the mountains are almost precipitous. The only vegetation consists of the fir and the vine. Provisions must be carried up on camels. Roads for carts are impracticable; even a railway on the Righi system, as proposed by the learned member for Oxford, is impossible.

With so many disadvantageous features, strategical and sanitary, it cannot be contended that Cyprus is important as a place of arms. A fleet of steam-transports must be a more effective base of operations in Syria, and the possession of Cyprus would not supersede the necessity for a commodious harbour on the mainland.

As a coaling station Cyprus possesses great natural facilities. We are informed by the Hydrographer that an inexpensive breakwater would render Famogusta available for the coaling of our fleet, and a secure anchorage for six large ships of war. I doubt the necessity for any new works, other than a light iron pier, for the mere purpose of coaling the fleet. The outlying rocks would afford excellent shelter for a pier long enough to allow of two ships being coaled simultaneously. At present six or eight steamers of moderate size can find an anchorage in all weathers. The easterly gales to which Famogusta is exposed seldom blow with violence. The sea-wall at Larnaca, which is exposed to the full range of the swell from the south and east, is only six feet above the water. The rickety buildings at Larnaca and Limasol, washed by the sea even in fine weather, receive no injury from the wintry gales. The

Facilities
for a har-
bour at
Famogusta

'Sunbeam' remained off the coast of Cyprus three weeks in November last, and the sea was perfectly smooth during the whole of our stay.

Unhealthi-
ness of
Famogusta

Whatever the decision of the Government may be as to a breakwater, I trust that no attempt will be made to establish a naval station or a mercantile port at Famogusta. It is the most unhealthy town in Cyprus. Staff-Commander Millard has reported that, of the 300 male inhabitants, every one had the fever in the hot season of 1878. Half the population had ophthalmia, and about one-sixth were suffering from diseases of the eye, causing opacity of the pupil and subsequent blindness. Captain Rawson, the flag-captain to Lord John Hay, endorsed this report, adding the consolatory assurance that, taking it all round, he did not consider Famogusta much worse than Larnaca. If the fleet were detained at Famogusta during the summer season, the health of the crews would be seriously affected.

Agriculture
in the island

When we turn from the political question to the capabilities of the soil of Cyprus, we find ourselves on less controversial ground. The plain of the Messorea is admirably adapted for the growth of wheat. The plain of Morfu produces madder. If properly made, the wine would be excellent; and all descriptions of fruit are abundant. I have received from the Commissioners at Larnaca and at Limasol letters conveying the most favourable impressions of the agricultural prospects of the island. New potatoes were offered for sale in December at one penny per pound. The growth of wine has been doubled; and the inhabitants need only the assurance that our occupation will be permanent to induce them to make further exertions.

Here we open up a large question. Are we to

remain in Cyprus? I fully concur with the leading members of my party in the wish that we had never gone there. Having entered upon an occupation, we cannot surrender the island to the Turks without great injustice to the inhabitants. The attempt to establish any form of self-government would be quite premature. I proceed, therefore, to consider the position on the assumption that our occupation will be permanent. Such being the case, the terms under which that occupation was commenced will require revision in many essential particulars. We must ourselves acquire the nominal sovereignty, still retained by the Sultan, and relieve the island from the payment of an annual tribute of 115,000*l.* a year. Under the terms of the present convention, England stands in an unworthy position. We are tax-gatherers for a bad Government. The tribute is a heavy burden upon Cyprus. The majority of the people are miserably poor, and they have perhaps been impoverished by the very circumstance that the tribute has been too heavy for their scanty resources. The amount of the tribute is based on Turkish estimates, and on Turkish notions of administrative responsibility. The so-called surplus is only realised by ignoring all the reciprocal duties of a Government towards its subjects. The total revenue of the island is 170,000*l.* A portion of this amount is derived from taxes which must be repealed; and when the tribute, the salaries of local officials, justice, and police have been provided for, a paltry surplus of 15,000*l.* will remain to do all that is required in so large an island, after the neglect and misgovernment of ages. Once relieved of the heavy burden which Cyprus was compelled to bear while in bondage to the Porte, the local Government would possess ample resources without the aid of the Imperial

Our occupa-
tion to be
permanent

The Turkish
tribute a
heavy bur-
den on the
island

How the
resources
of Cyprus
might be
developed

Parliament. It could remit all unjust taxation. It could make Cyprus a free port, and the great depôt for the trade with Syria and Asia Minor. It would be able to construct a railway ; to cover the expenses of new roads and public buildings, and the planting of forests. Only let the people be assured of the honest administration of justice, and of protection for life and property, and we may safely leave in their own hands the development of the material resources of Cyprus. Consul Eldridge has given a striking illustration of the pecuniary valuation of the English occupation. A property at Larnaca, which had long been unsaleable at the price of 6,000 francs, was sold, shortly after our arrival, for 120,000 francs.

Whatever can be usefully done to co-operate with the spontaneous enterprise of the people will certainly be undertaken with zeal and enlightened philanthropy by Sir Garnet Wolseley and his able staff. As an example of the spirit in which those gallant gentlemen have undertaken their task, I will read an extract from a communication lately received from Colonel Warren, the Commissioner at Larnaca :

‘You may not approve of our being here, but we have to labour here to make England’s name respected and beloved. Do not believe that our mission here is a small and humble one. We, in Cyprus, have already commenced to show what a beneficent and just rule means. Syrians, inhabitants from the neighbouring countries, men from Beyrout, Alexandria and the Lebanon, are here and have revisited their homes, which still lie under Turkish government. These speak out their minds ; and soon the clamour of the people will necessitate a change in the manner of ruling in Asia Minor. When people demand what the whole

Influence
of good
government
in Cyprus

world knows that they deserve, they will assuredly get it. The holding of Cyprus will be the leaven in the mass of dough. Do not let your politics stop the good work.'

Colonel Warren then proceeded to speak of the foundation of schools, and concluded by saying :

'We have a pier now ; our market is finished ; we have planted trees, widened roads, and are working as Englishmen ought. Give us words of encouragement now and then.'

Improvements effected

The advantages to England of the acquisition of Cyprus are problematical. To the Cypriotes, the substitution of such men as Colonel Warren and his colleagues for the corrupt officials of the Sultan must be an unmixed blessing.

The thoughts of the Prime Minister were long ago directed to the island. It was frequently mentioned in 'Tancred,' and specially in that admirable passage describing the entertainment offered by the hero of the tale to his friends at Greenwich. After dinner, Tancred, full of remorse at the delay in his departure for the Holy Land, thus muses to himself : 'Why was he here ? Why had he not departed ?' The reflection was intolerable. The being who would be content with nothing less than communing with celestial powers in sacred climes, standing at a tavern window and gazing on the moonlit mud-banks of the barbarous Thames—a river which neither angel nor prophet has ever visited. Before him, softened by the hour, 'lay the Isle of Dogs. The Isle of Dogs !—It should at least be Cyprus.'

Lord Beaconsfield's allusions to Cyprus in 'Tancred'

Later allusions in the novel pointed in even more direct terms to the events which we have lately witnessed. We read in Book iv., chapter i. :

'The English want Cyprus, and they will take it as

compensation ; ' and, on the following page, ' The English will not do the business of the Turks again for nothing.' Surely these are passages of more than ordinary significance, when read by the light of subsequent events. The author of ' Tancred ' has since attained to the loftiest heights of political power. He has fulfilled the dreams of his earlier manhood, and Cyprus has been conquered in the new crusade.

3. DEFENCES OF THE EMPIRE AND THE PROTECTION OF TRADE

ADDRESS TO THE LONDON CHAMBER OF COMMERCE AT THE
CANNON STREET HOTEL, JANUARY 25, 1888

BEFORE proceeding to the important subjects with which I shall have to deal, I desire to thank the London Chamber of Commerce for the honour, and still more for the opportunity, of addressing this influential and representative assemblage. If I can gain the support of this meeting to the proposals which I shall submit, a long stride will have been made towards their final adoption. I have one or two further preliminary observations to offer ; and first, let it be made quite clear that it will not be sought to abuse the confidence of the great body under whose auspices we are met, by an endeavour to make political capital out of the occasion. All questions of foreign policy, all questions relating to national defences, should be taken by common consent out of the domain of political controversy. The steps deemed necessary to the security of the Empire and its commerce once considered and determined, Ministers on both sides are equally bound to obey the mandate of the nation. I gladly acknowledge the efforts of the present Government in the execution of that great plan

of defence which was indicated in its broad outlines by the Royal Commission over which Lord Carnarvon so ably presided.

At this stage it may be appropriate to observe that the defence of our coaling stations by fortifications is strictly a measure of economy. There may be a difference of opinion as to whether this or that position is indispensable as a base of naval operations. There can be no such difference as to the methods of defence. Fortifications, wherever practicable, are the cheapest and most effective defence. The most costly and the least effective is the detention in port of our cruisers, which should be employed in holding the ocean highways, and in blockading the ships of the enemy. Not only are fortifications an economy in that they reduce largely the numbers required to hold a position; they are an economy in regard to the description of force which is necessary. The strong works by which our naval arsenals at home are now defended have not involved the addition of a single soldier to the regular Army. For the manning of those defences we should rely mainly on the Volunteers. I will not occupy the time of the meeting with the statistics of the case. We all know that the tonnage under the British flag is gigantic in amount, that it forms year by year an increasing portion of the aggregate shipping of the world, and that its destruction would be tantamount to the ruin of the nation.

Fortifications a cheap method of defence

From these general observations I turn to the defence of the coaling stations, taking them in the order in which they were visited on my recent voyage of 36,000 miles. I pass by Gibraltar, Malta, and Aden without any reference to their defences. We have the assurance solemnly given on the responsibility of the Govern-

The Imperial fortresses

ment to the Royal Commission, and renewed to the Conference of Colonial representatives, that the defences and armaments of these great Imperial fortresses will be maintained on a level with modern requirements. With regard to Aden, I desire to call attention to the fact that the outer anchorage is much exposed to the boisterous winds of the monsoon. The inner anchorage is well sheltered, but the depth of water is not sufficient for heavy ships. It could be quite easily improved by dredging.

Defences of
Bombay

Crossing the Indian Ocean to Bombay, the remodeling of the defences of that magnificent harbour and busy emporium of trade are being carried out with energy by the Indian Government. The works are undergoing complete transformation. Light guns are being removed, and 38-ton guns—to be ultimately replaced by breech-loading guns—are being mounted. To give complete security to Bombay, two or three monitors, in addition to those already provided, and more torpedo-boats are desirable. No arrangements had been matured at the date of my visit for providing officers and crews for the two powerful turret-vessels which have for some years been stationed at Bombay. I made inquiries as to the practicability of providing for the manning of these vessels by the enrolment of a corps of Royal Naval Artillery Volunteers. I was informed that an attempt had been made to establish a force of this description, and that it had been found that the oppressive climate made it impossible for Europeans, whose duties mainly lie in other directions, to undertake heavy-gun drill afloat. It would be practicable to man the land defences with voluntary artillery, and the present force of Rifle Volunteers should be drilled at the garrison guns. A Volunteer force for

service afloat being impracticable, the flotilla for the defence of the harbour should be manned with lascars from the Indian marine, under British officers, and led by British seamen gunners and Marine Artillery, who might be supplied, when occasion required, from the East India squadron.

From Bombay we will turn northward to Kurrachee, a port of immense importance as the base for the military defence of the north-west frontier of India. By skilful engineering, the entrance to the port, the anchorage, and the wharfage have been adapted to the requirements of steamships of large tonnage. A complete scheme for the defence of Kurrachee, both by batteries and torpedoes, has been sanctioned by the Indian Government, and is in course of execution.

Descending from north to south, with the western shores of the great Indian peninsula never out of sight, we arrive at Trincomalee, a noble harbour but unhappily too distant from the fertile parts of Ceylon to be available for the trade which has been concentrated at Colombo. A previous impression that an Imperial naval establishment in this position is of doubtful value was not removed by a personal visit. The resources are most limited ; and, looking to the facilities already in existence at Bombay, it is not desirable to extend them. Transferred to the Government of India, the dockyard at Trincomalee could be utilised for the storage and preparation of torpedoes and submarine mines, and for the service of the light-ships and light-houses on the adjacent coasts. At the present time, considerable expenditure is being devoted by the Imperial Government to fortifications both at Colombo and Trincomalee. When the fortifications and guns are provided, the means of defence will still remain

incomplete if we have not a sufficient force of artillery to man the works. A mixed corps of Volunteers and lascars should be organised at Colombo, from which detachments could be sent to Trincomalee when necessary.

Singapore

In connection with Imperial defence it will not be necessary to notice the ports of Burmah, where our trade has grown to such vast proportions since they passed under British rule. At Singapore we find another noble centre of trade, created, as if by the enchanter's wand, under the British flag—the accepted emblem for all uncivilised and half-civilised races of justice, order, security, and unrestricted freedom of commerce. Singapore is a naval station which we are bound to secure, and here the Colonial Government have carried out an extensive scheme of defence planned by officers of the Royal Engineers. At the period of my visit the guns which are promised by the Imperial Government had not yet arrived. For the manning of the works the limited force of British artillery on the station must be supplemented by a native force. Singapore has a splendid battalion of 1,000 Sikh police, who could be trained to work the guns. A Volunteer artillery corps is proposed, and would be valuable. The torpedo defences are, I believe, completed.

King
George's
Sound

Taking a long stretch round Borneo, where a small vessel, partly manned by a native crew, might with advantage be stationed to complete surveys, to maintain order, and to show the flag, and passing on through the Straits of Macassar and across the Southern Indian Ocean, we arrive at King George's Sound. The harbour offers perfect shelter to ships of deep draught from every wind. Strategically the position is most im-

portant, both from the great distance which divides it from the nearest harbours available for vessels of large size, and because all the trade between Australia and Europe by the Suez Canal, except that from Queensland, passes to and fro in the offing. Western Australia had undertaken the works, but the Conference was unable to devise a plan for raising the amount required to provide an armament for breech-loading guns, estimated to cost some 19,000/. I need not refer in any detail to the land defence of the great ports of Adelaide, Melbourne, Sydney, and Brisbane. The combined expenditure of the several Governments may literally be reckoned by millions, and the supervision of such officers as Sir William Jervois and the late Sir Peter Scratchley is a sufficient guarantee that the patriotic efforts of the colonists have been skilfully directed. For the manning of the works and the general defence of the Colonies by land an army has been raised of more than 30,000 Volunteers—artillery, cavalry, and infantry, of splendid physique, well-equipped, and provided with a small staff of officers from the Imperial service. To raise the colonial Volunteer force to the highest standard of efficiency more officers are required who have seen service in the Army. The desire has been expressed in influential quarters that an Imperial officer should be placed in command of each regiment. At the Colonial Conference the appointment of an Imperial officer of rank as Inspector-General of the Land Forces was strongly advocated. An occasional inspection by an officer at the Horse Guards is highly desirable. A visit from the distinguished officer under whose command the first contingent sent from the Colonies into the field had the privilege to serve would, I am confident, be highly appreciated. The preparation for such an in-

Australian
ports

The land
forces

Floating
defences

spection would do much to promote efficiency. Turning to the floating defences, a considerable flotilla for harbour defence, including a turret ship, gun vessels, and torpedo boats, has been created at Melbourne; Adelaide has one powerful coast-defence vessel; and Brisbane has two efficient gunboats. When the ironclads of older date are replaced in our European squadrons by ships of the latest type, I would urge upon the Admiralty that some three or four ships which would otherwise pass into the Reserve at home should be despatched to the Colonies. They would be valuable as a reinforcement of the floating defences and as drill-ships for the naval brigades which have been organised in all the Australasian Colonies. Under such officers as Captain Fullerton, at Melbourne, and Captain Hixon, at Sydney, the colonial Naval Reserves have reached a high degree of efficiency. The supply of trained officers in sufficient numbers can at present only be obtained through the Admiralty. At the Colonial Conference it was suggested by Mr. Deakin that appointments should be filled by retired officers of the Navy. The establishment of a naval and military college or school for the education of Australasian cadets is the true remedy. The cadets, after a term of service in the Army or Navy, would pass into the colonial forces.

Officers

Thursday
Island

Turning homeward from Australia by the northern coast of the great continent, Thursday Island is the first station which demands attention; and here we are once more reminded of the controversy left unsettled by the representatives of the Colonies at their recent Conference. It was admitted that Thursday Island is a point which ought to be defended. An active trade between Australia, China, and India, and all the steam trade between Queensland and Europe, pass within gunshot of

the place. An attack on Thursday Island by a considerable force would be warded off by naval means. A few light guns, manned by Volunteers, are required to secure the position from capture by a stray cruiser. At Port Darwin a similar slight defence is required. The harbour, which is of great capacity, is in an isolated situation on the line of trade between Australia and the Straits Settlements. Port Darwin is the landing place of the cable connecting Australia with the whole civilised world. It is the northern terminus of the railway, already commenced, which the South Australian Government intend to carry across the continent.

Port Darwin

We cross from Port Darwin to Mauritius. At this admirable harbour and most convenient coaling-station the additional works recommended by the Royal Commission are advancing to completion. The Imperial Government will supply the guns. For the manning of the works a local artillery force should be organised, led by officers and non-commissioned officers of the Royal Artillery. The torpedo defences are complete, and a torpedo service corps is being organised, recruited from the dock labourers, boatmen, and stevedores, and led by thirteen non-commissioned officers of the Royal Engineers.

Mauritius

We pass on to the Cape Colony. Here the works for the defence of Simon's Bay were undertaken by the Imperial Government, and are nearly completed. For the defence of Table Bay the Colonial Government are responsible, and they have not yet commenced operations. Convict labour will be employed in the construction of these works, and some delay must be anticipated. We may rely that in the end the engagement entered into by the colonists will be fulfilled. As to armaments, at the date of my visit apprehensions were felt by the local

Simon's Bay
and Table
Bay

authorities at the Cape that the number of breech-loading guns to be supplied by the Imperial Government would not be sufficient. It was in contemplation to mount the old pattern guns in the newly constructed forts. I trust that the War Office will be supplied with the means of giving a satisfactory armament for all the defences of the Cape. To complete the scheme for the protection of the Cape Peninsula the railway communication should be completed between Cape Town and Simon's Bay. The missing link is only a few miles in length. Following the line of communication between the Cape and England, the necessary works both at St. Helena and Sierra Leone are being vigorously pushed forward. For the manning of the additional works supplementary local forces should be organised, as suggested for other similar stations. At Ascension we have a small naval establishment, a stock of coals, naval stores which may be valued at 50,000*l.*, and a sanatorium on the summit of the Green Mountain, appropriately so named as the only green spot on this barren rock. There are no effective defences. Unless the Admiralty decide to remove their establishment to St. Helena, additional guns should be provided.

St. Helena
and Sierra
Leone

Ascension

Summary of
require-
ments

Having now made the circuit of the important points on which the security of our commerce with Australia and with the East depends, I proceed to sum up the various omissions which have been pointed out in the great scheme of defence which is now in course of execution. They are as follows: (1) At Aden, dredging operations; (2) at Bombay, additional monitors and the organisation of crews for the harbour-defence flotilla; (3) at King George's Sound, Thursday Island, and Port Darwin, armaments of sufficient power to deny the harbour and the coal supply to hostile cruisers; (4) at

the Cape, additional heavy breech-loading guns and a light military railway some six miles in length ; (5) at Colombo, Singapore, Mauritius, St. Helena and Sierra Leone, a local artillery militia ; (6) at Ascension, if retained as a naval establishment, some armament is necessary. This enumeration will scarcely alarm the most jealous guardian of the public purse. A moderate expenditure, fairly apportioned and judiciously applied, would fill up all the gaps in our armour to which your attention has been directed.

Having dealt with the fortifications, it is an obvious remark that they are but a means to the end. In order to give adequate support to the Navy, the means of repairing injuries sustained in action should be provided at all important points. We do not need additional dockyards. We should encourage private enterprise to make provision for naval requirements. The principle has received the sanction of the Legislature, in the passing of an Act which empowers the Treasury to make grants towards the construction of graving-docks on foreign stations. By small subsidies, in addition to the large expenditure of private capital, graving-docks suitable to the needs of the Navy have been completed at Hong Kong and Vancouver. Private enterprise should receive encouragement from the Admiralty to provide a graving-dock for Gibraltar, where no docking facilities at present exist. A grant should be made for the enlargement of the existing docks at Bombay by the Indian Government, and at Singapore and Mauritius by the Imperial Government. By this plan of co-operation with private enterprise, the means would be provided at the lowest possible cost of docking ironclads at every naval station of the first class which we possess on the line of communication between England and the East.

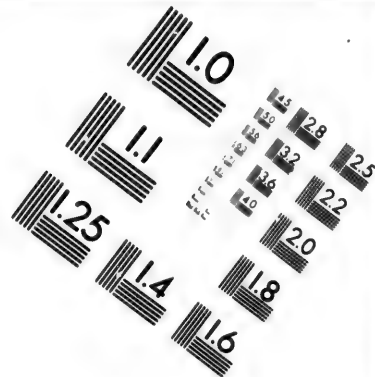
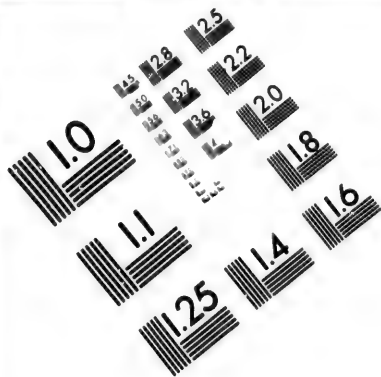
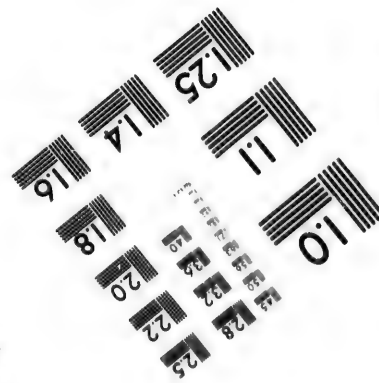
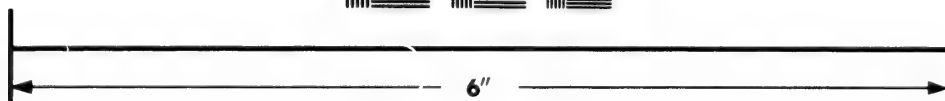
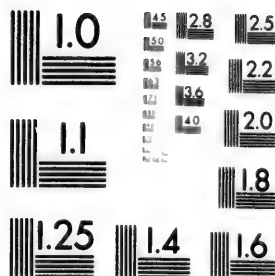


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**Advantages
of private
establish-
ments**

I need not remind this meeting that the facilities which we should create for the Navy would be most useful for commercial purposes. It is an important recommendation to the taxpayer that the plan imposes no standing expenditure on Estimates. The docks being in private hands, the skilled workmen required would be mainly employed in mercantile work. Their wages would be a charge on the public only when their services were actually required to execute repairs for the fleet. Foreign nations look with envy on the splendid resources which British commerce creates at no cost to the taxpayers. During the war in China, until the provisions of the Foreign Establishment Act were enforced, the French fleet was mainly dependent on our private ship-repairing yards at Hong Kong; and M. Weyl has told us of their conspicuous superiority over the limited resources which were found to exist when the French squadron was compelled to fall back on the national establishment at Saigon. The Dutch squadron in the East is dependent on private docks at Singapore; and when I visited Sydney I found the German cruiser 'Albatros,' which had been stationed for some years at Samoa, hauled up on the patent slip in the yard of a private shipbuilder. It should be our policy to take full advantage of the resources created, as it were spontaneously, by the maritime enterprise of the country. Let us avoid the great and costly error of duplicating at the public expense the means and instruments which lie ready to our hand, if only we will use them and look for them, in the vast and splendid organisation of the mercantile marine. In the important matter of dock accommodation the colonies have set us an admirable example. At Sydney, Melbourne, and the Cape, the Colonial Governments have constructed

graving-docks of dimensions sufficient for the largest ironclads in those waters.

I have shown how effectively this principle has been applied in the case of docks. It is equally applicable to the creation of a reserve of cruisers in the mercantile marine. The present Government deserves the hearty acknowledgment of the nation, and specially of the representatives of commerce, for the statesmanlike decision which they have taken to give subsidies for the retention of certain selected ships for the service of the Navy in case of war. In all contracts for the ocean mail services conditions should be imposed which would secure that the ships to be employed, or at least a certain number, should be adapted by their high speed and internal arrangements for conversion into cruisers. The officers and crews should belong to the Naval Reserve. The armament should be carried on board. In the case of Australia, under existing naval arrangements, two ships, in receipt of liberal subsidies, are at all times lying in Sydney harbour. An additional ship arrives every week. If these vessels were effective for conversion into cruisers, we should possess the means of improvising without delay an efficient squadron for the protection of trade. It is idle to talk of providing for the complete defence of our commerce without the assistance of the mercantile marine. In time of peace the public is impatient of taxation; and Chancellors of the Exchequer are anxious to propose popular Budgets. It is evident from a quite recent experience that the power of the Treasury, as the custodian of the public purse, can rarely be withstood by the Admiralty and the War Office, except when war is imminent or a scare has been raised, which is certain to subside when the public have become tired of reading sensational articles

Reserve of
cruisers

Advantage
of subsid-
ising best
merchant
steamers

in the newspapers. What, however, we cannot accomplish by those extravagant methods which are alone available in the case of a maritime Power not backed by a strong mercantile marine, we can accomplish, and at comparatively small cost, by the effective methods which I have briefly sketched. Time fails me, and I must not pursue this fruitful and suggestive theme. I could show that the same principle of combination may be applied to the manning of the Navy, and that under proper arrangements we might do much to raise the efficiency of that valuable Reserve, both of officers and men, which has, by a wise act of policy, been organised in the mercantile marine for the service of the Navy in war. To give aid to the Volunteer Home Defence Association, and to work in combination with the local authorities for the defence of our commercial harbours, would be a further and a wise application of the same principle.

Progress
of defence
of coaling
stations

It will be evident that I have not come here to propound alarmist views. The defence of our coaling stations had been deferred too long, but the work is now well in hand. We had put off too long the adoption of breech-loading guns, and we have leeway to make good; but the guns which we are now building will represent the latest advances of science, and we have the assurance of the Government that their manufacture will be pushed forward with vigour. For those connected with the administration of the great departments of the Navy and the Army it is impossible to repress the wish that we had larger means at our disposal, and could make more rapid progress in completing fortresses and building ships; but if we compare our position in the present with the past, it can scarcely be doubted that as a naval Power we have been gaining

in relative strength in recent years. The splendid force of Volunteers, the reserve for the Army, and the reserve for the Navy are the creation of the present generation. The patriotic spirit exhibited by the colonies in the work of self-defence is a new and a grand element of Imperial strength. The circumstances in which we stand demand almost continuous effort. They do not justify alarm. They require a discriminating appropriation rather than increase of expenditure. I claim for the plain and unpretending statement submitted to this meeting that it has contained nothing which can wound our national pride, or lower the dignity which rests on a proud consciousness of strength.

Increase of
strength as
a naval
Power

4. GIBRALTAR

LETTER TO THE 'TIMES,' OCTOBER 21, 1890

For an old Admiralty official it is scarcely possible to visit an important foreign station without finding occasion to suggest improvements, whether in relation to the defence, the garrison, or the resources for meeting the requirements of the public service.

More than once I have been permitted to urge in your columns the construction of a graving-dock at Gibraltar as indispensably necessary for the repair of ships disabled in the adjacent waters. In the present communication, I desire more particularly to insist on the importance of making secure provision for the coaling of the mercantile marine in time of war.

A dock
required

Under the arrangements as they exist at present, the merchant steamers coaling at Gibraltar draw their supplies exclusively from the numerous hulks moored under the guns of the fortress. From an attack by day the protection afforded is effective. Under cover of dark-

Unprotected
state of coal
hulks at
night

ness it would not be difficult for an enemy to make a dash at the anchorage with torpedo boats, and send the entire stock of coal to the bottom of the sea. In time of war a supply of coal is not less needed for the mercantile marine than the Navy, and the excavation of a dock would afford materials for the construction of a coaling pier of the requisite dimensions in a suitable position.

Term of
service for
garrison
should be
reduced

Turning to the garrison, the public at home can very imperfectly appreciate the sufferings of British troops exposed for a long period of five years to the stifling heats of a Gibraltar summer. The rank and file cannot, like their officers, escape from the confinement of the Rock by going on leave or following the Calpe hounds. Depression of spirits, lassitude, and physical deterioration are inevitable results of a long term of garrison duty at Gibraltar. Men grow weary of the service. They long for their discharge from their engagements, and the reports they send home are not favourable to the enlistment of a good class of recruits. The term of service at Gibraltar should not exceed three years. Considerations of economy may be pleaded in favour of the present term of five years. The cost of more frequent reliefs would be inconsiderable, and amply covered by the improved *morale* of the garrison.

Necessity
for a light
on the
Island of
Galita

Writing in sight of the Island of Galita, I am led, in conclusion, to refer to another topic not without importance to the maritime interests of the country. Galita is a leading mark on the voyage from England to the East. From Gibraltar ships proceed a distance of 700 miles without change of course to a position due north of Galita, which forms, as it were, the salient angle of the north coast of Africa. Here an alteration of course of nearly three points of the compass must be

made for Cape Bon and the Malta Channel. All mariners will be agreed as to the value of a powerful light at the turning point on the voyage between the Straits and the Suez Canal. It is not reasonable to rely on Tunis to supply what is required. In the parallel case of Cape Spartel, at the entrance to the Straits of Gibraltar, a light was erected, and is now maintained, under the provisions of an international convention. It is desirable that the Board of Trade should open communications with the maritime authorities of other Powers, with the view to an agreement for the Island of Galita on the same lines as were followed in the Cape Spartel convention.

'Sunbeam,' R.Y.S., off the Island of Galita, Oct. 10.

5. THE NEW COALING STATION, CASTRIES BAY, ST. LUCIA

LETTER TO THE 'TIMES,' APRIL 4, 1892

IN making foreign voyages in past years I have been permitted in your columns to give the impressions of an eye-witness on points connected with Imperial defence and colonial administration. On the present occasion I ask to be allowed to offer a few observations suggested by a cruise in the West Indies.

And first as to the garrison for the new coaling station at Castries Bay, in St. Lucia. The position has been selected solely on strategical grounds. It is easily defended, and the harbour is secure. In a sanitary point of view it bears an evil name. Our central coaling station in the West Indies must be fortified to resist a *coup de main*. We must have near at hand a sufficient garrison. It is not imperative that the troops should be quartered in St. Lucia in time of peace.

Barbados
more advan-
tageous for
troops

It is at present proposed to remove to St. Lucia the British troops hitherto stationed at Barbados. On many grounds the latter seems the more desirable station under peace. The barracks are admirably adapted to a hot climate. They stand on the shore, cooled by the constant breezes from the sea, and look out on a spacious savannah or park, equally convenient for drills and exercise, for cricket, tennis, and polo. It should not be put out of view that Barbados has a population of 172,000, as against the 44,000 of St. Lucia. The presence of British troops is a link with the mother-country. In this regard it is desirable that the few troops we maintain in the West Indies should be stationed in the largest centres of population. The considerations which have been urged point to the conclusion that in peace the distribution of troops should remain as at present. If war threatened, in a few hours the force in Barbados could be moved to St. Lucia. In this connection it may not be out of place to compare the staff of the Army in the West Indies with the forces quartered in the command. Barbados and Jamaica have each a colonel on the staff, with the local rank of major-general, two deputy assistant adjutant-generals, an officer commanding Royal Artillery, a commanding Royal Engineer, a senior Ordnance Store officer, a district paymaster, and a senior medical officer.

Troops in
West Indies

The troops quartered in the command include two companies Royal Artillery, two companies West India Sappers, eight companies West Riding Regiment, nine companies West India Regiments. These have their full proportion of regimental officers. The colonel of the West Riding Regiment is at head-quarters in Barbados. A colonel commands the West India depôt in Jamaica. The staff of the Army in the West

Indies would be sufficient if the force under their command numbered as many thousands as there are hundreds present with the colours. A revision of the establishments at the foreign stations would probably result in considerable reductions without loss of efficiency.

Passing from military arrangements at Barbados to the works in progress at St. Lucia, as an old Admiralty official I feel it a duty to press strongly one or two suggestions.

The physical conditions which render Castries Bay a secure harbour tend to make its stagnant waters unhealthy under a tropical sun. The harbour was formerly surrounded by marshy ground. In St. Lucia malarial fevers are prevalent wherever marshy ground is found. Something has been done in draining and filling up. The cost has been defrayed by the local Government, which has done what it could out of a scanty revenue of 50,000*l.*; but at the present rate of progress it will be ten years before all that is needed has been finished. The Imperial Government should now take the work in hand and carry it to completion without delay.

Unhealthi-
ness of Cas-
tries Bay

The drainage of the marshes is not the principal difficulty at Castries. The town is built on a small space of flat ground at the head of the harbour, and is completely hemmed in by an amphitheatre of high and precipitous hills. No running waters flow through the town, and the insanitary condition from stagnant sewage can be only too easily appreciated. If a large population is allowed to settle on such a site, it is impossible by any devices or precautions to preserve the public health. This is a point which ought to have been taken into consideration when the establishment of an Imperial coaling station was originally in contemplation. Before

Disadvan-
tageous site
of town

expenditure had been incurred for other objects, possession should have been secured of the entire foreshore of the harbour, together with a sufficient belt of the land adjacent. The purchase should be made now, although it is no longer possible to buy on conditions as favourable as might have been obtained in an earlier stage. Owners of property have been profiting largely by the unearned increment of value which the expenditure of the Government has given to their property. To be able to deal with the claims of private individuals on reasonable terms it may be necessary for the Government to obtain further powers by means of legislation.

Population
should be
limited

It is essential that the Government should have an absolute control over the civil population of Castries. It should have the power to fix their numbers, and to locate them where the conditions are most favourable to health. The expenditure already incurred on fortifications by the Imperial Government and on harbour works by the local Government, and the prospect of further expenditure from the same sources, have already attracted considerable numbers from other islands. This movement should not be suffered to continue. Castries should be treated in all respects as an arsenal or a fortress. It may be objected that the steps recommended will cost money. It would be money wisely spent. A decision having been taken to convert St. Lucia into an Imperial coaling station, and a large outlay having been incurred on fortifications and barracks, the work begun must be carried to completion. We are bound to do all that is needed to secure the best attainable conditions of health for the garrison and for the crews of Her Majesty's ships which will put in here for coals and supplies.

At sea, 14 N., 63 W., Feb. 26.

6. OUR COALING STATIONS IN THE WEST INDIES

LETTER TO THE 'TIMES,' APRIL 12, 1892

IN a former letter I stated what it seems necessary to do to secure reasonable sanitary conditions at Port Castries, in St. Lucia. Not without regret a considerable outlay was recommended. It will be well, perhaps, to examine how far increased expenditure may be justified by strategical considerations. Any position selected as a permanent base of naval operations must be protected by strong fortifications and a numerous garrison. To hold a coaling station weakly is to tempt attacks and incur the risk of humiliating disaster. Positions held in strength must be few. Bermuda has become our principal naval arsenal in these seas. It is defended by works of great, perhaps unnecessary, extent, and requires a large garrison. It will be a serious demand on our resources to hold another position for the support of the Navy so near at hand as is St. Lucia to the base we have already established at a heavy cost at Bermuda.

Strategical
considerations

Let us ask ourselves what it is proposed that Castries shall do for the Navy. Thus far, the proposed service is restricted to the supply of coal. Within what radius is it limited that Castries shall supply coals in time of war to Her Majesty's ships? The distance to St. Lucia from the principal ports of the Gulf of Mexico is 2,000 miles, from Jamaica nearly 1,000 miles, from Demerara it is not inconsiderable. If we have fleets engaged in active operations on the coasts named, it is clear that the supply of coal should be drawn from ships attending the movements of the squadron, and not from St. Lucia.

Position of
St. Lucia

From Castries we proceeded direct to Jamaica, where I have had the opportunity of revisiting the dockyard of

Jamaica.
Condition
of Port
Royal

Port Royal, after an interval of nine years. A second visit strongly confirms the impressions of the former occasion. Port Royal, as at present manned and equipped, is incapable of rendering, in work done for ships in commission on this station, an equivalent of the expense incurred for the maintenance of the establishment. It should be closed or made efficient. No yard can be accepted as efficient for the repair of a fleet of the modern type unless provided with a graving-dock.

Reduced
activity
in the
dockyard

In considering the decision to be taken, we should not lose sight of the fact that Port Royal is an inheritance from a period when naval requirements in these waters were totally different from those of the present day. Half a century ago, the British squadron operating round Jamaica for the suppression of the slave trade and other duties numbered more than 20 pennants, ranging from gun-brigs to 28-gun corvettes. It is no longer necessary to keep a fleet in these waters. Port Royal at the date of its greatest activity was a busy scene. Many workmen were employed, and a strong staff of officers was necessary for the duties of supervision. The workmen are dispersed, but a staff of officers has been retained sufficient for the duties of a much more important yard. If a return were made, showing on the one hand the expenditure at Port Royal in salaries and the maintenance of useless buildings, and on the other hand the amount of repairs carried out for sea-going ships in commission, it would convey an instructive lesson.

A receiving
ship not
required

It is not only in the dockyard that money is being wasted at Port Royal. The 'Urgent,' manned by a crew of ninety men, is stationed here as a receiving ship. As with the dockyard so with the receiving ship; the establishment survives although it has long ceased to be

necessary. Years have elapsed since a ship in commission was paid off or received a fresh crew at Port Royal. All ships are now recommissioned at Bermuda. This being the case, why keep the 'Urgent,' and why subject ninety men to the *ennui* and the deterioration of health inseparable from harbour service in the tropics?

Turning from the dockyard and receiving ship to the naval hospital, we have a vast building and a staff of three surgeons. With, at the date of our visit, two patients in their charge. This is a normal condition of things. Here, again, is an instance of the retention of an establishment which has ceased to be necessary for the service of the Navy.

The naval hospital

Port Royal bears an evil name for yellow fever and general unhealthiness. One obvious cause of sickness is to be found in the native town—a collection of miserable hovels inhabited by people utterly regardless of the laws of health. The town occupies a confined site between the dockyard and the naval hospital. If Port Royal is retained as a dockyard or a military station, the town should become the property of the Government and should be kept under the strictest control.

Unhealthiness of Port Royal

Of late, much has been said of the evils of divided command in stations maintained abroad solely for the support of the fleet. The dockyard of Port Royal stands on a tongue of land which protects the harbour of Kingston from the sea. The entrance to the harbour is defended by a fort garrisoned by Royal Artillery. For the military authorities it is difficult to keep touch with a small detached force. To the Navy it would be an easy task to take charge of the fort, which lies at the very gate of the dockyard.

Defence by the Navy

It may be open to question whether a dockyard is required at Jamaica. To have a graving-dock available

Necessity and site for a dock

would undoubtedly be of advantage. The best site would be not at Port Royal, which is completely open to bombardment, but on the inner side of the harbour, and probably not far from Kingston. It would be wise policy to encourage a private company to undertake the work. In offering a subsidy for this purpose, it might be made a condition that all the useful tools and machinery at Port Royal should be taken over at a valuation and kept in working order. If the present naval establishment were closed, the money thereby saved would more than cover the cost of the subsidy, and we should possess at Jamaica means of repair and refit for the fleet which at present are entirely wanting.

III

NAVAL TRAINING AND EDUCATION

1. TRAINING OF NAVAL OFFICERS

SPEECH IN THE HOUSE OF COMMONS, JUNE 13, 1871

MR. BRASSEY hoped that the subject to which he wished to call attention would be regarded as of some interest in connection with the manning of the Navy, for we could not have a satisfactory Naval Reserve unless we had competent officers to command it. The system of naval education had undergone no change proportionate to the modifications which had occurred in the service. Of late years, steam had been introduced, naval gunnery had become more complicated, the science of naval architecture had undergone complete revolution, the Navy comprised ironclads of innumerable types. These facts pointed to the necessity of a review of the system of training naval officers and an advance in their standard of education, so that the Navy might hold its own in comparison with other professions.

A review of
the system
desirable

In the first place, he suggested that a more complete preliminary education should be obtained for a naval officer, and for this purpose it was necessary to extend the time for the admission of cadets into the service. The age of 16 was not, he thought, too advanced. If this extension of time were allowed, the young cadet

Age of entry
should be
advanced

would be able to participate in the inestimable advantages of a public school education. Admiral Menda, in his evidence before the Manning Commission of 1859, had given his opinion as to the benefits of such a training ; and Captain Harris, before the same body, stated that the age of 17 was the best age for the admission of boys into the Navy to be trained as blue-jackets. *A fortiori*, therefore, this age would not be too late for the officers. At present midshipmen were expected to do duty as officers before their education was completed. As was said by the last Committee upon the Education of Naval Officers, there was 'an incompatibility between the position of an officer and a schoolboy.' It was also found impossible in practice to reconcile the duties of young officers at sea with their progress in education ; they could make little progress on board ship. The age of admission into all the principal foreign Navies was fixed at an advanced period to that in the British service. In the United States Navy the admission was from 14 to 18 years ; in the French Navy from 14 to 17 ; in the Russian Navy from 15 to 18 ; while in the British Navy the age of admission was from 12 to 13. The subsequent course of instruction was in the 'Britannia' for two years, followed by a year's training in the sea-going training-ship, so that at the age of 16 the midshipman begins to do duty as a young officer.

Age of entry
in foreign
Navies

Committee
on Naval
Education

The Committee on the Education of Naval Officers recommended that the period of special training should be three years in the stationary ship, and that in the last of those years the boys should go to sea to learn seamanship in cruising vessels. The Committee recommended that the period of special training should be enlarged, which, so far as it went, was, no doubt, wise and judicious. He should have preferred that they had postponed the

period of admission, so that young officers in the Navy should have the benefit of the public schools of England.

With regard to the subjects of study, the present course appeared to be too exclusively mathematical. In the American Navy it had been found that modern languages were not inferior to mathematics as a means of mental culture. He quoted Professor Mayne, of the Naval College at Portsmouth, in favour of the more careful and complete study of the French language; Captain Goodenough had also adverted to the lamentable ignorance of the French language when the French and English squadrons were exchanging international courtesies in 1865, and expressed his deep regret that so little French was known by the officers of Her Majesty's fleet. Among other practical studies, that of steam was too little attended to. In the protracted war between the United States and the Southern States great disadvantage was found to arise from the inefficiency of the numerous engineers suddenly taken into the American naval service, and the inability of the executive officers to check the neglect of duty by the engineering staff. Profiting by that experience, our mercantile naval authorities had introduced a practical course of steam for young officers, and there was a similar course at the Naval College at Portsmouth; but that only applied to officers of a higher grade. He hoped a like provision would be made for cadets during the period of their special training.

Knowledge
of language
and steam

He specially referred to the recommendation of the Committee on the Education of Officers for fitting up two brigs, to be attached to the stationary vessel of instruction, which would be found a most valuable school of instruction for naval cadets. The teaching of seamanship on board the 'Bristol' had been a com-

Brigs for
instruction

parative failure. There would be much greater advantage derived from attaching brigs to the stationary vessel of instruction. These cruisers would naturally be limited to British waters, and young officers would thus become familiar not only with seamanship, but with the pilotage of our own waters. He quoted a passage from the autobiography of Lord Nelson, in which he stated that, when a young officer, he had been allowed to go in the decked cutter and longboat attached to Chatham, and was constantly employed in navigating the North and South Channels, and thus became familiar with the whole pilotage from London to the North Foreland and to Harwich, and acquired that facility and nerve in navigating in narrow waters and dangerous rocks and shoals which he found in his subsequent career of inestimable advantage. The introduction of ironclads had very much diminished the cruising of British ships. Looking at the question from an educational point of view, he thought it would be advisable to employ a greater number of vessels in the Mediterranean of a class to be navigated under sail. One of the regulations adopted by the Cunard service was that no officer should be allowed to take the appointment of chief officer or captain who had not served on board a sailing vessel.

Abolition
of special
navigating
officers

A special report had been presented to Parliament in 1866 in favour of the abolition of the special navigating class in the Navy, and suggesting that lieutenants of the executive branch should be invited to volunteer for those duties. Many authorities, both in the Royal Navy and in the mercantile marine, had expressed strong opinions in favour of the abolition of the navigating class. He would urge upon the attention of the First Lord of the Admiralty the fact that all the naval officers

who had given evidence in favour of the retention of a special class of navigating officers had also recommended the Admiralty to equip and employ a vessel for the instruction of those young officers who were to be entrusted with the navigation of Her Majesty's ships. The loss of the 'Psyche' was, in his opinion, owing to the very short experience of a young officer of the navigating class.

He desired to obtain the support of the House in favour of a suggestion for expanding the Naval College at Portsmouth into a Naval University for England, the advantages of which should be open not only to the naval service but also to the mercantile marine, it having been proposed that degrees should be conferred in all branches of service that were important in a nautical point of view. This project seemed to afford the best means of effecting a real fusion between the Royal Navy and the mercantile marine, so that the latter might become a valuable adjunct to the former in case this country should ever be involved in a great naval war, and it could be carried out at very little additional expense. It might be thought by some that there would not be a sufficient number of officers of the mercantile marine willing to obtain so expensive an education as one of that kind; but he was of a contrary opinion, seeing that of the vessels which were now devoted to such educational purposes, and in which a considerable annual charge was made upon the pupils, the one in the Thames had on board as many young gentlemen preparing for the mercantile marine as she was qualified to receive. He proposed that in future no commission should be given in the Royal Naval Reserve except to officers who had passed some examination, at any rate in gunnery. It was now incumbent on those who belonged to the

A Naval
University
advocated

Fusion
between
Royal Navy
and mercantile
marine

Reserve Forces on shore to undergo short courses of study, and if for the Naval Reserve there could be arranged a short course of gunnery on board the 'Excellent,' it would not be an unreasonable exaction. Although he was prepared to go further than the Committee had recommended with regard to many changes which he thought would be advantageous to the Naval Service, yet he accepted their recommendations so far as they went, believing them likely to contribute to the educational improvement of the Navy.

2. NAVIGATION AND PILOTAGE OF HER MAJESTY'S SHIPS

PAPER READ AT THE ROYAL UNITED SERVICE INSTITUTION,
MARCH 6, 1891

It is hardly necessary to say that I have not been invited here to lecture as an amateur to the officers of the Royal Navy on the science and practice of navigation. I shall deal with the subject strictly from an administrative point of view. It will be my task to consider whether the system of training in navigation and pilotage, as pursued in the Navy, is in any respect faulty, and whether there has been unwise parsimony in providing adequately for practical instruction. If it can be shown that something is left to be desired, it will be my duty to propose a remedy.

Ability with
which Her
Majesty's
ships are
navigated

I may open by saying that the testimony is unanimous, both in the Service and out of it, and it is not less strong abroad than at home, that, with rare exceptions, the navigation of Her Majesty's ships is performed with distinguished ability and success. I need not go farther back than the manœuvres of recent years for proof of the high standard of efficiency attained. It

would be invidious to single out particular instances, but I think I shall give no offence by reminding this audience of the felicitous combination of daring and caution displayed in the conduct of the fleet under the command of Sir Geoffrey Hornby during the instructional cruise of 1885. The long and deep-draughted ships of which that fleet consisted were navigated without accident through a prolonged series of difficult operations on the west coasts of Ireland and Scotland. Such feats as the departure of the fleet from their anchorage in Blacksod Bay in a dark and boisterous night, and the passage through the narrow and tortuous Sound of Islay and the western shores of Cantyre at night, deserve to be remembered. Similar performances have been often repeated, even in the peace annals of the British Navy. The escape of the 'Calliope' from destruction is a recent illustration of seamanlike skill. The younger officers of the Navy may justly take credit for the able manner in which the torpedo boats commissioned for the manœuvres have been handled and navigated.

While giving this meed of well-merited praise, it is my duty to call to mind certain exceptional instances, in which disasters have occurred which can only be accounted for upon the assumption that the officers responsible were without the practical knowledge and experience which it is the duty of the Administration to secure in every individual appointed to fill a position of responsibility for the navigation of Her Majesty's ships. The loss of a gunboat on Tory Island—a small rock marked by a powerful light, and surrounded on all sides by deep water—was a most deplorable, because easily to be avoided, disaster. I may mention another case, that of the stranding of the 'Starling' in the Red

Disasters
due to in-
experience

Sea, on the *Dædalus* Reef. Fortunately this error of judgment was not attended with loss of life. I am not anxious to lengthen the catalogue of disasters, or I might refer to the stranding of an Indian troopship on the Isthmus of Tarifa, the loss of the 'Lily' in the Straits of Belleisle, and to other instances of error, presumably due to inexperience.

More
training
at sea
desirable

And now let us ask ourselves whether incidents such as I have referred to are attributable in any sense to defects in our method of training. I venture to assert that they may be traced to a faulty system. We have not secured, as it was our duty to secure, for every officer in the Navy sufficient practice at sea in navigation and pilotage. Until within a recent period, no midshipmen were appointed to mastless ships. This restriction is now no longer observed, and the change is, from many points of view, to be regretted. Partly owing to the substitution of mastless for masted ships, and partly owing to the considerable periods spent on shore in the Gunnery and Training Schools and the College at Greenwich, the actual service at sea in the early stages of a young officer's career has been unduly shortened. On the other hand, the standard of attainments in mathematics is being raised; our younger officers are becoming more scientific in gunnery and better acquainted with Physics, Chemistry, and Electricity, while their opportunities of gaining experience in an essential branch of the profession, in which proficiency depends upon practice, are being lost. The advantage to the Service of having a certain number of officers of the highest scientific attainments cannot be overrated; but in providing the means of higher education for the few, we must take care that we do not turn

the attention of the Navy unduly to scientific as distinguished from practical qualifications.

The latest Committee on Naval Education assumed in their Report that young naval officers on joining the Royal Naval College, at 19 or 20, would have attained a fairly sound practical knowledge of navigation. There is reason to apprehend that the cases are numerous in which such an assumption could not be sustained. It is generally admitted that the Flying Squadron offers all that could be desired for the training of young officers on first going to sea. Unfortunately, only a certain proportion of our midshipmen have served in this excellent school. Every cadet should begin his service in ships of the Flying Squadron. A midshipman who has served throughout the early stages of his career in ships not suitable for training purposes will not find the means under existing arrangements of making good his deficiency at a later stage. He spends six months in the Naval College at Greenwich; his college course is followed by a month on the 'Vernon,' and three months in a gunnery ship. It concludes with a two months' course of instruction in pilotage. On passing an examination in pilotage the sub-lieutenant is confirmed in his rank. Such a scheme of instruction is more favourable to scientific training than to the practice of navigation.

Advantage
of flying
squadrons

The suggestions of the Committee on Education would provide no effective remedy. Limiting their proposals to the officers borne for navigating duties, they recommend a six months' course at the Royal Naval College, with only such practical instruction and exercise as can be obtained in a pinnace attached to that establishment. A six months' course of instruction in pilotage is indispensable for all officers who may be

Training in
pilotage
advocated

placed at any period in their career in command of ships. The instruction should not be merely theoretical, but should embrace a thorough practical training at sea. For this purpose a small flotilla of suitable vessels, such as cutters withdrawn from the coast-guard service, and gun vessels, should be maintained. In these vessels officers should be constantly at sea, and especially at night, in waters crowded with shipping and difficult of navigation. The Downs and the channels extending from the North Foreland to the Nore, and the North Channel to the Thames as far as Yarmouth Roads, should be frequently visited. The instructional cruises should extend in the summer months to the West Coast of Ireland and the Baltic; in the winter to the Mediterranean. At Malta a yacht, or other suitable vessel of moderate size, should be provided, and should be constantly at sea during the winter, visiting the ports of Sicily and the Ionian Islands. Harbours should be frequently entered at night.

Foreign
systems of
training
officers

We have been behind other nations in the completeness of our system of instruction for young officers in the important branch with which we have to deal to-day. In the American Navy six years are spent by young officers at the Naval Academy, and the cadets cruise for three months every year in sea-going vessels. In the Austrian Navy officers spend four years at the Academy, and they are at sea two or three months every year. In the Danish Navy the school course extends over four years, eight months of every year being spent on shore, three months in a corvette, and a month in a gunboat. In the Dutch Navy four years are spent at school. The midshipmen cruise in summer in a corvette. In the French Navy two years are spent on board the 'Borda,' to which vessel two sea-going

corvettes are attached for practice in cruising during two or three months in the summer. On leaving the 'Borda,' a year is spent in the sea-going training-ship 'Iphigénie.' In the German Navy the course of instruction extends over a period of five years. The pupils in the Naval School at Kiel cruise at sea during the summer months in the Baltic and in the English Channel. On leaving school they spend two years in a training-ship at sea. In the Russian Navy the school course is six years. Every summer the whole training establishment is removed for four months to a training squadron, consisting of three or four corvettes. In the Swedish Navy the course is for six years, eight months of every year being spent on shore and four at sea.

The impossibility of making a good navigator and pilot by merely theoretical instruction is well illustrated in the passage which I shall read from a paper prepared by Captain Kiddle on the education of naval executive officers. 'The education of a naval officer,' he says, 'may be roughly divided into two parts: seamanship and, to use a common but expressive phrase, learning. Good seamanship means something more than handling a beautiful ship in fine weather; it means that those who are proficient in its mysteries never allow the slightest signs to pass unheeded; it means that, whether an officer is watching the reefing of a top-sail in a gale, or setting a royal in the trade winds, or running his ship on a dead lee shore in thick weather, or rounding-to to pick up a shipmate who has fallen from aloft, a knowledge of its principles enables him to do exactly the right thing at the right time. It means that each cloud, as it rises above the horizon, should be carefully watched and its probable effects as carefully weighed; it means that the slightest discoloration of the water,

Captain
Kiddle
on the
training
of naval
officers

the presence of a patch of seaweed, or the appearance of a land bird, should at once command attention, to know why they are there, and what they may possibly indicate, and this with a vigilance which is untiring and sleepless. . . . You can no more produce a Nelson by sending a boy to the "Britannia" than a Vandyke by artiling him to an artist; the feeling is innate. It was seamanship that enabled Nelson at the Nile to discern with unfailing correctness that where there was room for an enemy's ship to swing there was room for one of his to anchor; it was seamanship that enabled him at Trafalgar to perceive that by breaking and doubling on the French and Spanish lines he could attack them in detail; and it was seamanship that enabled Hawke, on the ironbound coast of Brittany, to say to the master who called his attention to the dangers of a lee shore, "You have done your duty, leave the rest to me." At present this branch of the profession is apparently subordinated to the torpedo and long-ranged gun. The modern navigating lieutenant is drifting into the position of the officer he displaced; and if reports are true the majority wish to avoid the duty.'

Report of
Committee
on Educa-
tion

The last observation of Captain Kiddle receives support from the Report of the Committee on Education. 'Before proceeding,' they say, 'to indicate the lines on which a special course might be arranged, we would direct attention to the widespread feeling of disappointment which prevails among navigating officers. Of all avenues to promotion, the performance of navigating duties has come to be regarded as the longest and most tedious. While the lieutenant who takes up the gunnery, torpedo or first-lieutenant line is tolerably sure of advancement, the lieutenant for navigating

duties, whatever his ability, and however expert he may be, has the mortification of finding his juniors constantly promoted over his head. Accordingly the navigating branch, though possessing some advantages, is avoided by the more enterprising members of the profession. It is obvious that this state of things, if prolonged, will lead to serious mischief. The tendency will be to drive every officer of ability from navigating duties; and yet everyone recognises how important it is that those duties should be well performed. The remarks which I have quoted point to an error in the distribution of rewards which it is urgently necessary to rectify.

Having dealt with training in the early stages, we pass on to the practice of navigation in sea-going ships. Admiral de Horsey, in some able letters, has urged that more attention should be paid to navigation than has been customary with many officers. The Admiralty have given their endorsement to the recommendations of the gallant officer by a recent circular. Of the wisdom of Admiral de Horsey's advice it is not possible to entertain a doubt. All the responsibilities of the command of Her Majesty's ships are properly centred in the captain. It is obviously his duty to keep himself efficient, not only to superintend the work of his subordinates, but to take charge personally in a critical moment. The varied duties which devolve upon the captain of a ship of war do not admit of the same devotion to navigation which might be expected from a captain of the mercantile marine; but navigation has been too much neglected by the executive line in the Navy.

The subject of this paper brings up for consideration the change which has been made in recent years by the abolition of the navigating line. I see no reason to regret the part I took in the debates on this subject in

Navigation
in sea-going
ships

Abolition
of the
navigating
branch

the House of Commons. The testimony is general that the navigating duties are well performed by the lieutenants of the executive line, who volunteer for this service. The old masters, in the early stages of their career, had few opportunities of acquiring practical skill; they gained their knowledge after their promotion to the rank of master. There were social objections of a grave character to the existence of two classes on board a ship, to one of which all the rewards of the service were open, while to the other they were denied. It was a yet greater evil, incidental to the system, that it tended to discourage lieutenants and captains from giving their attention to navigating duties. The success of warlike operations may not rarely turn on ability in navigation and pilotage. Lord Nelson in his autobiography makes special reference to the valuable experience which he had gained as a midshipman when in charge of the longboat attached to the flagship at the Nore, in which he was constantly afloat in the estuary of the Thames.

Training
should be
adapted to
modern re-
quirements

We cannot revive the old conditions of service at sea. The seaman's life is no longer surrounded by the circumstances of romance and adventure which furnished a grateful theme to Lord Byron and Captain Marryat. We have to adapt the training of our officers to the service as it exists to-day. In proposing that the School of Pilotage shall be expanded from a short theoretical course at Portsmouth into a practical training of six months at sea, in vessels suitable for the purpose and under the supervision of an adequate staff, I am proposing an addition to the training of the Navy which it should be possible to carry through at a comparatively moderate expense. I am confident that it would result in more uniform efficiency in the essential branch of navigation and pilotage.

IV

NAVAL MANŒUVRES

1. ON THE BEREHAVEN OPERATIONS

LETTERS TO THE 'TIMES,' JULY 18 AND 25, 1885

THE following notes, as giving the results of personal observation during a recent cruise with the Evolutionary Squadron, may not be without interest for the public.

It would be unbecoming in a civilian to criticise the personnel of the fleet. Captains of great experience express the highest satisfaction with the crews under their command; and, if I may add an independent testimony, it will be to the effect that it is impossible not to feel deeply impressed with the zealous spirit and devotion to duty displayed by all ranks throughout the squadron.

Avoiding all questions of individual efficiency, I turn to the general subject of the training of the Navy. It is evident that the system which has given us the fine body of men who form the crews of the Evolutionary Squadron is likely to undergo a considerable change. Exercises aloft have hitherto filled a large part of the seaman's life. The limited amount of time devoted to the handling of canvas during the cruise under Admiral Hornby affords an unmistakable indica-

Training of
seamen in
mastless
ships

tion that instructions having a more practical bearing on naval warfare in these days of steam are taking the place of sail-drill and the shifting of masts and yards. Is it, therefore, to be assumed that the art of seamanship, as formerly practised, is to be neglected by the Navy of the future? Should not the aim be rather to combine all that was valuable in the former system of training with the gunnery and torpedo exercises which are now indispensable? Every officer and man should be familiar with the ships in which he may be called upon to do battle for his country. But if a sailor remains too long in a mastless ship he will lose in general smartness and agility. His life will become too monotonous and confined. These observations seem to point to alternate periods of service in the masted and mastless ironclads—the winter months in the masted ships, cruising to the southward, the summer months being spent in the newest ships in home waters, and devoted to the system of instruction now being inaugurated in the Evolutionary Squadron.

The exercises and operations of the squadron have already been graphically described by the correspondents of the Press. There are, however, one or two incidents which it is difficult for an eye-witness to pass by in silence.

The attack on the boom at Berehaven by the 'Polyphemus' was a grand experiment. The 'Polyphemus' prepared for the final charge by steaming round Bantry Bay, gradually attaining the extreme speed of nearly 18 knots. Then, like some bird of prey, which first circles in the air and then sweeps down upon its victim with an overwhelming blow, the ship was suddenly steadied in her course, steered straight for the boom, and, cleverly eluding four out of five

'Poly-
phemus'
breaking
through
the boom

torpedoes, swept through spars and steel hawsers without even a momentary check. The experiment was watched with breathless interest, and its triumphant success filled with admiration all who witnessed the stirring scene. It was not merely magnificent as a spectacle, but it must have an important bearing on the practical question of the defence of fleets in close harbours.

The imposing appearance of the squadron at sea equally demands a few words of description. On Thursday, July 2, in the evening, the squadron weighed from the anchorage at Berehaven. As soon as he had gained the open waters, the Commander-in-Chief brought his flagship and the line with which he was leading nearest to the dangers of the coast. When the squadron was finally formed in the order prescribed by the Admiral, the 'Oregon' was the leading ship. The station of that noble specimen of the American liners was far away in the van of the squadron. On either quarter of the 'Oregon' were the heavy ironclads, led in two lines by their respective Admirals. The flanks were covered by the look out ships, their station being kept with great precision. The majestic procession, moving rapidly onward in perfect order, produced an effect far surpassing the most brilliant naval review.

The
squadron
at sea

I now turn to matters which more directly concern those recently responsible for the administration of the Navy. Have we, or have we not, succeeded in putting into the hands of our gallant and skilful seamen a satisfactory *matériel*? This is, for us and for the country, a question of the first importance. The new problems connected with torpedo warfare were the special occasion for the assembling of the Evolutionary Squadron, and it will be to the torpedo flotilla that I shall now refer.

Matériel

The experiences gained in the recent cruise have thrown considerable light on the direction which should be given to the construction of the future. Three classes of torpedo vessels seem to be required for the Navy.

Defects of
the 'Poly-
phemus'

1. The largest class should be capable of making a direct attack on ironclads, in open day, with a fair chance of success. This class is represented in the squadron under Admiral Hornby by the 'Polyphemus.' In speed and fighting power—whether with the ram, the torpedo, or machine and quick-firing guns—the pioneer vessel of this type may be pronounced a success. The quality which is deficient, to borrow a French term, is that of habitability. In a war with a serious foe, our squadrons might be required to keep the seas for more extended periods than under the easy circumstances of peace. It would be in long cruises that the defects of the 'Polyphemus' would make themselves felt. Even in favourable weather, the ordinary swell of the Atlantic breaks on the deck, as upon a half-tide rock, compelling the crew to remain below. Close and constant confinement under hatches would lead to a rapid deterioration in the physical condition of the men. The one capital defect of the 'Polyphemus' would be remedied by building up amidships a superstructure of moderate height. Such a superstructure would contain a well-lighted and well-ventilated lower deck, and carry a dry and spacious upper deck, available for drill and exercise in all usual conditions of weather. The plans for an armoured ram now under consideration at the Admiralty provide for a considerable increase of freeboard as compared with the 'Polyphemus.' Nothing would be lost either in invisibility or invulnerability in the improved design. In the 'Polyphemus' the flying deck and turrets are

conspicuous objects. A superstructure not intended to be occupied in action might be riddled through and through without injury to the fighting efficiency of the ship. The improved 'Polyphemus' may be taken to represent the most powerful type in the torpedo flotilla of the near future. It is satisfactory to find that we have so nearly reached an ideal perfection in the first design produced at the Admiralty.

2. The smaller type required to keep company with a squadron—the type shortly to be represented in the French Navy by the eight vessels of the 'Bombe' class—we have as yet only in miniature in our first-class torpedo boats of the most recent pattern. These latter are vessels of some 60 tons. Enlarged in dimensions, and, except as to dimensions, with no essential modifications of design, we may accept them as excellent models for a larger class, of perhaps 300 tons, and a yet larger class of 600 tons. The best dimensions for a sea-keeping vessel can only be determined by experiment.

Improved
sea-going
torpedo
boat

Looking to the great importance of numbers, it would have been satisfactory to have rested content with the dimensions within which our constructors have hitherto been called upon to work. The reasons for an increase of size in the sea-going torpedo vessels of the smaller class are identical with those which apply in the largest class of the torpedo flotilla. Battered down, the present boats may be safe in any weather, but the crews, confined below and exposed to the heat of the engine-room, would soon become unfit for duty. The situation of the officers and look-outs on deck would be scarcely less intolerable. The low decks would be swept by a blinding spray, and by volumes of solid water, from which no adequate protection could be provided.

Larger boats
necessary

Hitherto, although the squadron has escaped bad

Trying
service in
torpedo
boats

weather at sea, the crews have suffered many discomforts, which have been borne without a murmur both by officers and men. It is no light ordeal to be translated suddenly into a torpedo boat on the Atlantic after a year of close study in the 'Excellent,' the 'Vernon,' or the college at Greenwich. A man must be versatile indeed, both physically and mentally, to adapt himself to the wide and constant changes to which officers of the Navy are subjected. It is scarcely less trying for the seamen to serve to-day in the 'Minotaur' and to-morrow in a torpedo boat.

Boats
carried in
depôt ships

3. In addition to the sea-going vessels, the torpedo flotilla of our squadrons should include a number of boats of the largest dimensions which it is practicable to convey from point to point in the torpedo-boat carriers and the floating steam factories—the 'Heclas' and the 'Oregons'—which have now become a necessary feature in the fleets of modern days. The smaller torpedo boats are especially suitable for harbour operations.

Boats for
coast
defence

Our present second-class torpedo boats, somewhat enlarged, are satisfactory in all essential points. The first-class torpedo boats attached to the Evolutionary Squadron do not fall within either of the three categories which seem to be required for a sea-going squadron. But they are efficient for coast and harbour defence, and it was for that duty that they were designed. The existing first-class boats, and the large number of a yet more powerful class now being rapidly constructed from funds provided under the vote of credit, will supply an excellent defensive flotilla for our seaports at home and abroad. In the Clyde and the Forth, in those numerous and intricate channels between banks of sand and mud at the entrances to the Mersey, the Thames, the Humber, and in the Bristol

Channel ; or abroad in the Straits of Gibraltar, in the Malta Channel, in the Straits of Bab-el-Mandeb, in the Straits of Malacca—in short, at all important naval and commercial stations—our torpedo boats built and building will be most valuable.

The cruise of the Evolutionary Squadron round the West Coast of Ireland has been an heroic effort—a *tour de force* for harbour- and coast-defence boats. But, handled as they have been with skill and judgment, the boats have come out of the trial at least as well as might have been expected. Admiral Hornby attached each of the torpedo boats to an ironclad, which served as a floating breakwater to her fragile attendant. From the poop of the 'Minotaur' I had an opportunity of observing the behaviour of the torpedo boat attached to that vessel. Nothing could have been more easy and graceful than the movements of the slender craft as she rose and fell with the easy motion of a bird skimming the surface of the sea. To compare it to the flight of a flying fish is the best illustration that I can give. After admiring this grace of movement, a striking impression was conveyed of warlike fitness and power, when, instantly, upon any signal from the flagship, the torpedo boat dashed away from under her quarter at a speed of 17 knots, to convey a message or an order to the furthest vessels in the wide-extending squadron. In the smoke and confusion of battle the same lightning speed and agility of movement would give to the torpedo boat a terrible power in the use of a deadly weapon.

Torpedo
boats with
a fleet

The efficacy of the means of defending a fleet by booms in a close harbour, and by nets and guard-boats in an open anchorage, has been fully tested in the Evolutionary Squadron ; and the defence may pro-

Defence of
a fleet

bably be considered to have been successful. It will be admitted, on the other hand, that the attacks by the torpedo boats have not been made under such circumstances as an enemy would select. The nights have been clear and the ships have been able to use all the means at their disposal for repelling an attack. The torpedo boat will certainly prove formidable to a blockading fleet at night, or in foggy weather.

In a further communication I propose, with your permission, to deal briefly with the armoured and unarmoured ships.

II

HAVING dealt in a former letter with the torpedo flotilla—the most novel and interesting feature in the Evolutionary Squadron—ships of more familiar types will form the subject of the present communication.

Advantage
of speed for
cruisers

The introduction of armour has changed their sphere of action, but unarmoured vessels still continue an indispensable element in our fleets and squadrons. They are the look-out ships, and are equally essential whether in the blockade of an enemy's port or in warfare on the open sea. For all the duties that most appropriately devolve on the steam cruisers—the frigates of the present day—speed should be a paramount consideration. The advantage of superior speed was brought out in a conspicuous manner in Bantry Bay. When the torpedo boats of the defensive force sallied forth to drive off the blockading squadron, the 'Mercury' with ease kept ahead of her assailants, and could have destroyed them with the fire of her guns. In the case of all the other unarmoured vessels, the torpedo boats could have closed with them so rapidly that they might have suc-

ceeded in coming up within striking distance without receiving fatal injury from gun-fire.

The insufficiency of speed in the great majority of our unarmoured classes is principally due to want of length. Until a recent period, a superiority in armament over foreign ships of the same tonnage, good steering qualities under steam, and handiness under sail were demands urgently pressed upon the constructors of the Navy. These qualities are secured most easily in short ships, and forms were adopted by no means favourable to speed. By the brute force of powerful engines results were obtained at the measured mile which were considered satisfactory. But the same results were not maintained at sea, because the conditions under which the measured-mile trials are conducted can never be secured in practice. At the measured mile the sea is always smooth; on the ocean it is never so. The altered conditions tell most strongly against ships deficient in length, especially when contending with a head sea. The long vessel, on a comparatively even keel, holds her way in the manner so remarkably illustrated in the fast and regular passages of the American liners. The short vessel, falling into the trough of the sea, rapidly loses the speed attained in smooth water. In the latest designs for unarmoured ships the proportions leave little to be desired. But the vessels attached to the Evolutionary Squadron, although of recent date and exhibiting a decided progress over their immediate predecessors, are deficient in respect to length. Even the 'Mercury' would be improved by the addition of 40 feet. The other unarmoured vessels of the fleet include the 'Conquest,' the representative of the large and costly C class, ships of 2,380 tons, and ten in number; the 'Cormorant,'

Increased
length for
cruisers

the representative of the 'Bird' class, also ten in number, and measuring 1,130 tons; and the 'Mariner' and 'Racer,' the most recent type of small unarmoured vessels yet afloat. As to all these vessels, it must be admitted that they are too short and too slow for fighting operations in which torpedo boats could take a prominent part. For the same reason they are less capable than we could wish of giving effective protection to commerce. They would require the whole day and smooth water to catch a collier, sighted on the horizon at daylight. It is difficult to over-estimate the gain in the efficiency of the Evolutionary Squadron from the addition of a few more ships equal in speed to the 'Polyphemus' or the 'Mercury.' But the 'Mercury' is not adapted for steaming against a head sea, and she only carries three and a half days' coal. It is highly satisfactory that we have in various stages of construction the four 'Leanders'—all now nearly ready for sea—four 'Merseys,' and five belted cruisers. All these ships should be even more capable than the 'Mercury' of doing the work which that vessel has performed so well in the hands of an accomplished seaman, during the present cruise. While so much inferior to the demands of actual war, the 'Conquest,' 'Cormorant,' 'Mariner,' and 'Racer,' are all excellent for the ordinary work of the Navy in time of peace.

Defects of
the older
ironclads

Turning from the unarmoured to the armoured ships, the majority of those assembled in the squadron are of early types. In the older ironclads the want of internal sub-division is, perhaps, the most serious structural defect. The torpedo has rendered it more than ever important to localise injuries below the water line.

In speed and coal endurance, no less than in point

of internal sub-division, the older ships are far behind the latest designs. The insufficiency of coal endurance could be remedied by compounding the engines; and great qualities of speed are not necessary in all ships. It is probable that fleet actions will be brought on by the fast ships on both sides, and fought out, when the hostile fleets have fairly closed, at moderate rates of speed.

Improved
machinery
desirable

Having referred to their admitted defects, the points of superiority of the older ships over the sea-going monitors which have succeeded them are not unworthy of notice. They have been brought prominently into view during the cruise of the Evolutionary Squadron. Steaming to the westward, from Berehaven, on a summer's night, the foredeck of the 'Devastation' was swept by sheets of foam, while the upper decks of the broadside ships were towering high above the waves. That the turret-ship of low freeboard is the most powerful type for battle will not be disputed; but the life on board, in an extended cruise, would be wretched.

Disadvan-
tage of low
freeboard

In the new ships of the 'Admiral' class a great improvement has been effected. We have in the heavily-armoured turrets the fighting power of the 'Dreadnought' and 'Devastation'; while in the battery between the turrets and the lofty and spacious deck above the battery we have the means of carrying a powerful minor armament, and placing the crews under the conditions essential to health and efficiency in a sea-keeping ship.

The
'Admiral'
class

It is not necessary to enter into the question of extended belts of armour at the water-line. As, however, allusion has been made to the defects of the older ironclads, it may not inappropriately be observed that,

Distribution
of armour

if the excessive contraction of the armour in our latest ships is open to criticism in this particular, at least the older ships have conspicuous advantages ; while their inferiority as regards armament is not so clearly established as the pessimists would lead us to believe. It is not impossible that in an action with ships armoured on the system in vogue in France—a system of narrow belts on the water-line and high top sides, undefended by armour—many guns of comparatively light calibre would be found more effective than guns of much greater power, but proportionately reduced in numbers. These remarks seem not uncalled for, in view of the sweeping condemnation which critics, and especially naval critics, are perhaps too ready to pronounce upon ships built at a large cost, and which were highly approved when they were laid down. The old-fashioned ironclads of our Channel and Reserve Squadrons, strongly built and still in thoroughly sound condition, so noble in appearance, are not lightly to be put aside as obsolete relics of a former age of construction. Their hulls and machinery could be modernised without difficulty if it were thought desirable to take the work in hand. In estimating the strength of the Navy, the means we possess of adapting the ships under consideration to modern requirements should not be overlooked, although the policy of a large expenditure for such a purpose is not likely to find favour. The new Board of Admiralty have acceded to office at a time when public opinion is favourable to a liberal expenditure upon the Navy ; but even for the present Board, no less than for those who have preceded them in office, it must often be difficult to decide between expenditure on alterations and expenditure on new construction. In most cases the balance of argument will incline rather

towards the construction of new than to the alteration of old ships.

The 'Ajax' is the latest ironclad in the squadron. Her steering qualities are certainly unsatisfactory, but the cause of the difficulty in steering is patent. The lines of the ship are too full. The run should be lengthened by building on to the ship a false stern. The rudder would thus be removed to a greater distance from the body of the ship, and would no longer work, as now, in dead water. Looking to the great power and efficiency of the 'Ajax' in armament, armour, machinery, and general equipment, this alteration seems worth carrying out.

Defective
steering of
'Ajax'

After every allowance has been made for defects, resulting inevitably from constant changes in the methods and weapons of naval warfare, the Evolutionary Squadron has presented a display of forces which would command the respect of the most captious critics if it had been marshalled under the flag of any other Power. It is easy to criticise this or that ship as obsolete, but let us ask ourselves whether there is any reasonable probability that we can again settle down into stereotyped forms of construction, such as had been adhered to for many years previous to the introduction of armour. Administrators and taxpayers may, indeed, abandon the task of building up a Navy as hopeless if, upon every change of armament and armour, all ships of a preceding type are to be condemned as useless. Let us refuse to give countenance to such a view. While sympathising fully with the anxious desire of naval officers for perfection, let us impartially compare the criticisms passed by British officers upon British ships with those passed by foreign officers on foreign ships. Let us compare the Evolutionary Squadron with

Older types
not to be
despised

the most powerful squadrons that could be brought together under any other flag. How many 'Devastations,' how many ships like the 'Polyphemus,' are ready for sea elsewhere? In every foreign Navy do not the majority of the ships of necessity belong to types more or less out of date? The better opinion would seem to be that the construction of ironclads has been carried forward for the British Navy with not inadequate energy; and that we most need reinforcement in the lighter ships, which are the indispensable auxiliaries of the fleet.

Advantages
of the
'Oregon'

The presence of an armed mercantile cruiser with a squadron of our ships of war should not be altogether unnoticed. The 'Oregon' represented a force in reserve, practically without limit, and which, so long as peace is preserved, imposes no burdens upon the taxpayer. As compared with any cruiser such as we have hitherto constructed for the Navy, the 'Oregon' possesses certain points of superiority of incontestable value. She has a sea speed of 18 knots, a speed not yet reached in the blue water and maintained through a long voyage by any ship of war. She combines with this speed an advantage even more conspicuous in point of coal endurance. We have in these two qualities elements of great efficiency for all the duties which probably belong to a look-out ship. As a floating steam factory, or a torpedo-boat carrier, or as an escort to a flotilla of torpedo boats, the 'Oregon' could scarcely be surpassed. It is specially to be observed that no ship can be considered a satisfactory escort for torpedo boats unless equal to them in their distinctive quality of speed. A vessel which cannot steam more than 12 knots must hamper rather than assist the movements of boats capable of steaming with ease 18 knots, and

which, as it has been found by experience, cannot be handled successfully in a seaway unless a high rate of speed is maintained. Considered with reference to the purposes of war, the extreme length and want of internal sub-divisions are the most serious defects of the 'Oregon,' as of all the great ocean steamers of the mercantile marine. In vessels built for commercial purposes the main proportions of the hull must obviously be determined with regard to economy of steam power and the stowage of cargo, rather than the requirements of war; but in their internal structure much might be done at a comparatively small expense to fit them for service as cruisers. In this connection I may specially refer to the introduction of frames designed with a view to constructing, should the necessity arise, additional longitudinal and transverse bulkheads.

Serious objections may be raised to the payment of annual subsidies, but the structural modifications to which I refer, if introduced as part of the original design, would cost comparatively little. The expense should be borne by the Admiralty, but it is unnecessary to add that the proposal is limited in its application to the case of vessels which shipowners are proposing to build of exceptional speed.

In the Evolutionary Squadron, for the first time, as I believe, since the establishment of the Naval Reserve, officers of that service were invited to volunteer for duty in the Navy. The satisfactory results of the experiment must have an important bearing on the numbers required in the several ranks of the regular Navy. In time of war the demand for lieutenants could not be supplied from the lists as at present authorised, and looking to the difficulty of giving employment and promotion in time of peace to an increased

The Naval
Reserve
in the
manœuvres

number, we may well hesitate to entertain any large proposals in that sense. In these circumstances, the Admiralty may wisely turn their attention to the officers of the Naval Reserve, and, in proportion as they recognise the value of their services, the policy must commend itself of giving more ample facilities for training in gunnery and torpedo warfare. We have a school of training at Aldershot for the Reserve officers of the Army; we should make similar provision at Portsmouth for the Reserve of the Navy.

To a member of the Board which despatched the squadron to sea, it could not but be satisfactory to learn from the younger officers how greatly they valued the opportunity afforded to them of extending their professional knowledge. For the training of the Navy it would certainly be desirable that once in every year the Channel and Reserve Squadrons should be brought together for exercises similar to those lately carried out with conspicuous and gratifying success.

24 Park Lane, July 23.

2. THE RECENT NAVAL MANŒUVRES

LETTER TO THE 'TIMES,' OCTOBER 11, 1888

WHILE the naval manœuvres recently brought to a close still engage, as I trust they will long continue to engage, the attention of the public, I ask the privilege of contributing to the discussion, through your columns, the dispassionate reflections of an eye-witness.

Difficulty of
modern
blockade

In the present communication it is proposed to deduce lessons, without attempting to review in detail the successive incidents which occurred. Our recent experiences have made it evident how severe is the

strain of maintaining a blockade against a steam-propelled fleet. In the old sailing days a blockaded force could only escape with the aid of fair winds. In calms and when contrary winds prevailed, the blockaders were sure that the enemy would not move. The introduction of the torpedo boat has been distinctly for the advantage of a blockaded force. It is exhausting to keep watch, night by night, off the entrance to a port, in momentary danger of attack by a dimly seen enemy.

Before the commencement of the manœuvres it was doubtless the opinion of the Admiralty, as it was certainly the opinion of the Admirals, that the contending forces were not unequally matched. Admiral Baird had a decided superiority of force, and the conformation of the coast in the vicinity of Bantry, so closely resembling the approaches to Brest between Ushant and the Raz de Sein, offered no special facilities for breaking the blockade. Ships making a rush for the open sea from Berehaven are hemmed in on the north by the line of coast stretching in a direction to the south of west as far as Darsey Island. On a south-south-east bearing from Berehaven the promontories of Sheep's Head and Mizen Head jut out in succession into the ocean. Mizen Head and Darsey Island are nearly equidistant from Berehaven. They lie, roughly, within a radius of 20 miles. Thus, for the first and most critical hour in the operation of breaking the blockade, the fastest ships of Admiral Tryon's fleet were limited, in the range of courses which could be steered, within an arc of 90 degrees. It is certain that escape from a superior force was only possible under cover of dense fog or almost impenetrable darkness.

Theatre of
operations

Admiral Tryon had not long to wait for his first opportunity. On July 27 the fog was so dense that it

Escape of
'Warspite,'
'Severn,'
and 'Iris'

would have been impossible for a fleet in the offing to prevent some of the blockaded ships from putting to sea, had it been permitted to Admiral Tryon to make the attempt so early. After an interval of a week, a night of pitchy darkness enabled the 'Warspite,' 'Severn,' and 'Iris,' to escape from Berehaven unobserved by the heavy ships of Admiral Baird's force. They passed quite close to the 'Sunbeam' without being seen. The continual flashing of the electric light, and the showers of rockets thrown up from the torpedo boats on both sides, increased the difficulty of penetrating the surrounding gloom.

It is possible that Admiral Tryon's ships might have been intercepted if the blockading squadron had been nearer to the entrance to Berehaven. In conditions of weather such as have been described, heavy ironclads close in with the land would have been exposed to continual danger of being torpedoed. Nets are the only defence as yet devised, and they are not available for ships under way.

Types of
cruisers

Accepting the results of the recent operations, as it is agreed on all sides that we should, as conclusive evidence of the greatly increased difficulty of sealing up an enemy within his own ports, it is clearly essential that our Navy should be prepared to sweep the seas with cruisers. The experiences of the manœuvres will be of considerable value in the selection of efficient types. The most powerful which has yet been produced was represented by the 'Warspite.' Having been the subject of much adverse criticism in relation to the increased draught of water and the distribution of armour, it is gratifying to those responsible for the order to build the ship that she has been found in practice in a high degree efficient for the duties for which she was de-

signed. Ships of the 'Warspite' type should find a place in the programme of construction to be next submitted to Parliament. In the new ships it would be desirable to give protection, by means of armour, to the guns on the upper deck. Details would be out of place. It will be sufficient to suggest that this object may be effected by concentrating the six-inch guns amidships, and by taking armour from the inner semi-circles of the turrets and placing it on the broadside. Five second-class unarmoured cruisers of recent construction were commissioned for the manœuvres. In the four 'Merseys' and their four predecessors of the 'Arethusa' type a success has been achieved. The symmetry of design is attested by a fact which every seaman will appreciate. To the eye these vessels appear considerably under their actual tonnage. They are splendid sea boats. They have a high rate of speed, a powerful armament, and protection for buoyancy and machinery by armour and internal sub-division. As cruisers intended to keep the seas, their lofty sides and ample freeboard are a valuable feature. Great as the improvement has been in the vessels recently completed, we are promised a decided advance in speed in those now building. The armament will be lighter, but the guns will be of the latest pattern. The tonnage will be less than that of the 'Mersey' class.

Improvements in 'Warspite' class

Good qualities of 'Arethusa' type

It is difficult to fix a *maximum* for our requirements in the class of cruisers under consideration. The 'Merseys' are a success. The vessels we are now building will be a valuable addition to the Navy, and we want on our list such cruisers as those lately built by the Armstrong Company for Italy.

From the 'Warspite' and the 'Mersey' to the 'Archer' class we descend from 8,400 tons and 3,550

'Archer' class

tons respectively to 1,630 tons. The 'Archers,' eight in number, were represented in the recent mobilisation by six vessels. They sit well on the water. End on to the wind, they ride the sea with easy motion. They are powerfully armed ; they have good coal endurance, and a high speed on the measured mile. It has been objected that we have attempted too much within the limits laid down for displacement, that we have carried reductions of weight too far in hulls and engines, and that the ships are overloaded with armament and overcrowded with men. It would be easy to reduce the weight of armament by substituting four-inch for six-inch guns.

Speed at sea

It is more difficult to devise a remedy for the shortcomings of the 'Archer' class under steam. It would obviously be unreasonable to rely on a speed at sea equal to that attained at the measured mile. The Admiralty tables point out that not more than about two-thirds of the full power developed under fixed and most favourable conditions can be expected in continuous steaming at sea. The measured-mile power and speed is a standard performance, absolutely identical for all ships of war, and is needed by shipbuilders and engineers for comparisons of form and proportions. The 'Archers' could work at sea with two-thirds of their extreme power, or even more, if, like mail steamers, they made definite runs at an unchanging speed. What tries the boilers is to lie still or crawl about with banked fires, and then make a rush at full speed. The ordinary work in the engine-room of a man-of-war is a poor preparation for a sudden and excessive strain on men and machinery. It is when the utmost effort is called for that the disadvantages are felt of the want of that ample space and good ventilation which are easily

afforded in a merchant ship, where there are fewer compartments, and where there is no necessity to keep machinery below the water line.

In the manning of the Navy, the blot which it is most urgently necessary to remove is the defective training of the stoke-hold and engine-room staff. The mobilisation puts numbers of young, untrained artificers and stokers into the ships, and difficulties must be expected. We are making progress in the management of the machinery of torpedo boats. We are training men to this work by keeping a few boats, manned from the torpedo schools, constantly under way. A vessel of the 'Archer' class, and another of the 'Severn' class, should be kept in commission at the home ports. All young engineers, artificers, and firemen should go through a course of instruction in these vessels in the management of engines at full speed. At Spezzia an ironclad of the Italian Navy is daily under way for a similar purpose.

More
training for
artificers
and stokers

It is a question whether, even under the new regulations, the trials of ships are sufficiently severe before they are passed into the service. A voyage at full speed to Gibraltar and back for cruisers of the 'Archer' class, and to Halifax and back for larger vessels, would discover many weak points and afford a much-needed opportunity of training for engineers and firemen. I would not recommend additional vessels of the 'Archer' type.

Steam trials

From the 'Archer' to the 'Sandfly,' a type represented in the manœuvres by three examples, we drop from 1,630 tons to 450 tons. A force, and a considerable one, of effective sea-keeping torpedo boats is an evident necessity for the British Navy. If Admiral Baird had had more 'Sandflies' at his disposal, the

'Sandfly.'
More
required

blockade of Berehaven would not have been broken in the circumstances of weather in which the 'Warspite' and her consorts got clear. Our shipbuilding should be vigorously pushed forward on the line of the 'Sandfly' class. The construction of these useful vessels is due to the wise initiative of the present Board.

While we have reason to be satisfied with the types already produced, in the construction of the future it will be desirable to secure more power to contend with weather and more convenience and comfort for a long service at sea. These objects can only be attained by adding to tonnage.

Battle-ships.
Defects of
low free-
board

Turning to the battle-ships which were brought together in the recent mobilisation, our most recent creations, of the 'Admiral' type, were generally approved. When the squadron under Admiral Fitzroy passed through The Race, off Portland, going down Channel, at the commencement of the manœuvres, the 'Rodney's' upper deck was dry, while that of the 'Devastation' was awash and her crew were driven below. Physical deterioration must inevitably result from prolonged confinement under hatches. All naval construction for the purposes of war must be a compromise between the demand for more armament and armour and the necessary limits of tonnage. The weak points in the 'Benbow' are the exposed position of the heavy guns, mounted *en barbette*, and the want of protection by armour for the six-inch guns in the battery. The carnage which would occur in action at unprotected guns has been described with vivid imagination by the author of 'In a Conning Tower.' Machine-gun fire has been greatly developed in the armament of recent ships. We have followed the French, and with doubtful advantage. In a close action there will be

More pro-
tection to
auxiliary
armament

great loss of life among crews fighting in the open, and with no decisive result. While his ship remains uninjured in hull, machinery, and the heavy armament, no captain will surrender. Better, it would seem, to keep the light guns within such limits as to number as will allow of protection being afforded to their crews.

Passing from first-class to second-class ironclads, the 'Conqueror' and 'Hero' have many points of excellence. They steam 15 knots; they are particularly handy; they are well-armed and heavily armoured. The want of stern fire is the main defect; and this might be remedied by cutting down the superstructure at the after end. The saving in weight of hull would provide for a heavy gun protected by armour.

Improvements in the type of which the 'Conqueror' and the 'Hero' are the sole representatives is a subject to which the attention of the Admiralty and their professional advisers may with great advantage be directed. All the considerations which moved the Admiralty of the day to lay down the 'Conqueror' and her consort may be urged, and with even greater weight, at the present time. If twelve years ago it was held to be imprudent to put too many eggs into one basket, *a fortiori* such a policy is to be deprecated in view of the growing strength of the torpedo flotilla in all the Navies of the world. The merits of the type were recognised at the Admiralty, but when the designs for two improved 'Conquerors' were taken in hand, demands were pressed, as usual, for increased calibre in the guns, increased thickness in the armour, for large additions to the minor armament, for more speed, and more coal endurance. In the endeavour to satisfy these severe and conflicting conditions, the 'Conqueror' of 6,000 tons grew into the 'Victoria' of 10,470 tons, and the cost

'Conqueror' and 'Hero'

Moderate displacement advocated

was raised from 418,000*l.* to 725,000*l.* The future programme of construction should include ships of the 'Conqueror' type, with every improvement that ingenuity can contrive, within the limits of tonnage laid down for the original design.

The older
ironclads

Having dealt with the modern types, we turn to those older vessels which have for so many years done duty as flagships in the Channel Fleet. During the manœuvres, the 'Northumberland' carried the flag of Admiral Baird, the 'Agincourt' that of Admiral Rowley. These noble ships should not lightly be put aside as obsolete. The quick-firing ordnance described by Lord Armstrong in his interesting address at the Elswick meeting, and the discovery of explosives frightfully destructive in their effects, will certainly take us back to the older methods of protection. Recent experiments in France, and our own experiments on the 'Resistance,' have shown that a more extended protection must be given by armour to the upper works of ships. As the area protected increases, so the thickness of the armour must be reduced, and thus we return to the earlier type of ironclad.

'Northum-
berland'
class

If the method of protection is accepted, the 'Northumberland' class will compare favourably with later designs in almost every particular which constitutes efficiency in a man-of-war. In long cruises their crews could be kept in health by exercise, as they certainly could not be in the confined ships of later date. As fighting ships the 'Northumberlands' have some advantages over vessels of more recent design. A single well-placed shot may silence the fire from a turret or a citadel. This can scarcely happen when the guns are carried on a long length of broadside. It cannot be claimed for the ironclads of the first period that they

are fit antagonists in the line of battle for the most recent ships. They would find their more appropriate sphere as cruisers. With triple-expansion engines, driving a single screw, I have the authority of Sir Edward Reed for saying that a speed of 16 to 17 knots would be reached. To economise coal, sail power should be retained, the five masts being reduced to three. Internal subdivision might be extended. In the three ships of the 'Northumberland' type—the 'Achilles,' the 'Hercules,' and the 'Monarch'—we should have an instalment of that reinforcement of cruisers for which, as Sir Geoffrey Hornby has shown, the necessity is urgent. The 'Black Prince,' 'Warrior,' and 'Audacious' class should be taken in hand later.

Refitted as
cruisers

In concluding these observations on shipbuilding suggested by the recent mobilisation, a few words must be said on the subject of torpedo boats. For service in open waters, the larger the boats the better. A type which should combine the Yarrow boilers, the Thornycroft engines, and a hull built on White's turnabout system would approach very near to perfection.

Torpedo
boats

Having dwelt at length on the lessons to be drawn from the mobilisation in relation to the shipbuilding policy of the Navy, let us turn to the personnel of the fleet—a more important but, happily, less debatable topic. And, first, some words of praise are due to the Admiralty. It was a bold and politic act of administration to bring together the most powerful fleet which has been assembled in modern times, and to lay down a programme of exercises so calculated to test the efficiency of the Navy. Throughout the fleet, the zeal displayed and the state of discipline were most satisfactory. In this regard the Coast Guard never fail to show an example to the younger men. I was informed by the

The
personnel.
Good
behaviour
of men

captain of one of the ironclads of the first reserve that the periodical embarkation of 350 additional men for the annual cruise has the singular yet gratifying effect of reducing largely the total number on the defaulters' list.

The Reserve

The Coast Guard is our first and best Reserve. As, however, considerations, both of expense and efficiency, impose a limit on their numbers, it has been found necessary to create a still more numerous Reserve in the mercantile marine. So long as we refuse to accept compulsory service, such a Reserve must be our answer to the *Inscription Maritime*. We have no reason to withhold our confidence from the Naval Reserve, but it is as yet untried and imperfectly organised. When a trial was being made of our whole resources for the mobilisation of the fleet, it is to be regretted that no seamen from the Naval Reserve were invited to volunteer for duty. Officers of the Reserve should always be called out on the occasion of a mobilisation, and care should be used that those embarked are suitable for the duties of their rank on active service.

3. THE NAVAL MANŒUVRES OF 1892

LETTER TO THE 'TIMES,' SEPTEMBER 1, 1892

THE manœuvres of 1892 having been brought to a conclusion, it now remains to take lessons from our latest experiences.

The newest ironclads and cruisers have been generally approved in the Navy, the speeds maintained at sea showing a marked advance.

The early
ironclads
for the
protection
of commerce

The older ironclads in the Blue squadron came out badly, in point of speed, when pitted against more modern ships. Prudent expenditure in fitting sound

and not badly protected hulls with effective engines and guns would yield good value for the money. The long ships of the first period of construction—the ‘Warrior,’ ‘Black Prince,’ ‘Achilles,’ ‘Agincourt,’ ‘Northumberland,’ ‘Minotaur,’ ‘Hercules,’ ‘Sultan,’ and ‘Alexandra’—are capable of steaming at 16 knots. In protection and solidity of structure they are superior to seven of the thirteen French ships, classed as armoured cruisers in the ‘Naval Annual.’ With the addition of a few fast cruisers, the ships enumerated would form an efficient squadron for protecting commerce on the route to India and the Far East by the Cape of Good Hope. In the China Sea, where numerous ports and anchorages are available for hostile cruisers, it might be necessary that traders should sail under convoy. The speed required for this service would be well within the capabilities of ships of the ‘Audacious’ and ‘Nelson’ types, fitted with modern engines. They would need swift cruisers as auxiliaries.

A further argument may be urged for moderate expenditure in modernising sound ships. Having built our armoured ships from the beginning in iron, their hulls are in as good condition to-day as when they were launched. By keeping these ships up to date in machinery and armament, we maintain the advantage gained over other Powers, whose earlier ironclads, being wood-built ships, have for the most part been condemned as unfit for service. Two ships of our ‘Minotaur’ class should be taken in hand as a commencement. If the results are equal to reasonable expectations, the work will certainly be followed up.

Turning to the personnel, the manœuvres have demonstrated the necessity for bringing the numbers in the several ratings more closely into relation with

Good condition of hull

Readjustment of crews

the work to be done in mastless ships. At present the seamen are in excess, while the engine-room complements, when working under pressure, are below the requirements. In a mastless battle-ship 100 seamen should be sufficient. For working the guns and manning boats, marines with additional training, and led by a small proportion of seamen and seamen-gunners, should be perfectly efficient.

Marines
should be
increased

The manning of the Navy has been discussed recently in able papers, read at the United Service Institution, by Captain Johnstone, now in command of the 'Agamemnon.' Having stated that at present the marines are from one sixth to one-seventh of the complement, he expressed the opinion that the number should be increased to the proportions of a hundred years ago, when the general composition of the crews was one-third marines, one-third landsmen, and one-third seamen. By increasing the marines and reducing the seamen, a considerable economy in our training establishments could be effected. From his entry as a boy at the age of sixteen to the completion of his training, it has been computed that every able seaman costs the country 300*l*. Marines are entered at eighteen, and their training is much less costly.

Stokers

Descending from the batteries to the engine-room, every ship of war should carry sufficient firemen and trimmers to make up three strong watches. Every stoker should be trained at the gun and the oar. In action, the men not required in the engine-room should go to quarters as combatants.

More
practice
at sea

In conclusion, the frequent break-down of machinery in newly-commissioned ships points to the necessity for more practice at sea. In the greyhounds of the mercantile marine, running at extreme speeds across the North

Atlantic, accidents to machinery are rare. The best means to insure efficiency in the Navy is to keep in commission, as practice vessels, a few cruisers representing the latest and most powerful types.

Dalnacardoch Lodge, N.B.: Aug. 30.

4. NAVAL MANŒUVRES OF 1892

LETTER TO THE 'TIMES,' SEPTEMBER 10, 1892

ONE of your correspondents, under date August 27, has pointed out the discrepancy between the number of French torpedo boats, as given in the 'Naval Annual' and the 'Report of the Committee on the French Navy Estimates for 1892.'

I have consulted the 'Aide Mémoire de l'Officier de Marine,' an annual publication issued by M. Durassier, Chef de Bureau au Ministère de la Marine, assisted by M. Charles Valentino, Sous-Chef de Bureau in the same department. Tables published in their official capacity by gentlemen holding responsible positions in the French Admiralty may be accepted with confidence. If they differ from figures given elsewhere, the differences are probably due to the circumstance that the dates of compilation are not identical. The French torpedo flotilla is in constant process of change by additions, and sometimes by the withdrawal of boats not regarded as effective. Authorities

The table on page 328 gives figures taken from the 'Aide Mémoire,' the 'Naval Annual,' and the 'Report of the Committee on the French Navy Estimates.' Table of
torpedo
boats

In explanation of the discrepancies shown in the table, it may be suggested that the Committee on Estimates place the sea-going torpedo boats in a different

Torpedo Flotilla.

—	Sea-going	1st Class	2nd Class	3rd Class	Total
Report . . .	0	38	84	41	163
Annual . . .	20	30	83	41	174
Aide Mémoire	25	62	83	41	211

category from boats of smaller dimensions. The differences in the numbers of first-class boats arise from the activity with which construction is being pushed forward in France, causing a constant variation in the numbers shown in the lists. The 'Aide Mémoire' gives ten boats as proposed to be laid down. These are included in the table.

French sea-going boats

The list of sea-going torpedo boats in the 'Aide Mémoire' includes the following :

—	Tons	Speed
		Knots
Chevalier (building)	123	24·5
Corsaire (building)	150	25·5
Mousquetaire	125	24·5
N (proposed)	—	27·0
5 Ouragan type (completed)	148	20·5
3 Coureur type (completed)	114	24·0
6 Avant Garde type (built and building)	119	20·5
7 Agile type (completed)	103	21·0

British and French boats

The following table gives the relative strength in the British and French Navies :

Torpedo Flotilla.

—	Great Britain	France
Sea-going	2	25
First Class (built and ordered)	94	62
Second Class (built)	73	83
Third Class (built)	—	41

Our inferiority in torpedo boats of the sea-going class is compensated by our superiority in torpedo gun-vessels, a type of the greatest importance in a Navy which must be prepared to act offensively. Of torpedo gun-vessels with 19 to 20 knots speed, and ranging from 575 tons to 1,070 tons displacement, we have 31 vessels. Adding to this class the 'Polyphemus,' of 2,640 tons, our aggregate tonnage for the British Navy is 27,110 tons. The French have 14 vessels ranging in displacement from 320 to 925 tons, and in speed from 18 to 21½ knots. The aggregate tonnage of the French torpedo gun-vessels is 6,210 tons. Our superiority is conspicuous, but it is not sufficient to justify any relaxation of effort in building. It is obvious that a blockading fleet, required to keep the sea for a lengthened period, must be supported by vessels of a large and powerful class. A torpedo flotilla, acting on the defensive, and operating off the entrance to a port only when a dark night or hazy weather affords an opportunity for a sortie, may consist of comparatively small and inexpensive vessels. In torpedo-boat construction, as indeed in every branch of shipbuilding, Great Britain must pay a high price for her naval supremacy.

Our
superiority
in catchers

The manœuvres of this year have shown that the torpedo is a deadly weapon even under the least favourable conditions. The nights were short, the moon was at the full, and rules were laid down which seemed rather unduly to favour the heavier ships. A prolonged blockade in winter would expose the fleet outside to hazards which it is impossible to contemplate without some misgiving, and which could only be averted by closing the entrance to the blockaded port with a swarm of torpedo gun-vessels. In a former letter the necessity for keeping in commission practice vessels for the train-

Continuous
practice in
torpedo
boats
necessary

A flotilla to
be always in
commission

ing of young engineers and firemen was strongly urged ; in this concluding letter I would press a similar suggestion in relation to the torpedo flotilla. For the trying service of the annual manœuvres, it is not satisfactory that any untrained officers or men should be embarked in exceptionally ticklish craft. To avoid this necessity, a small squadron of torpedo boats should be always in commission. Sheerness may be recommended as admirably suited for the requirements of a central sea-going torpedo training establishment, at which the main work of building, fitting, and repairing should be concentrated. The yard could readily be adapted to the purpose. It is not adapted to deal with larger vessels. For exercise in the handling of torpedo boats and the management of their complicated machinery, the estuary of the Thames is an ideal cruising ground. The training in torpedo boats, which should form an essential part of the instruction of every young naval officer, would give experience in navigating in pilotage waters and along the coast, which the recent manœuvres have shown to be highly desirable for the general efficiency of the Navy. Lord Nelson has placed it on record in his brief autobiography that it was in the estuary of the Thames, in command of the longboat attached to the flagship at the Nore, that he acquired that experience in pilotage which afterwards proved so valuable in the battles of the Nile and Copenhagen.

V

STRENGTH OF THE BRITISH NAVY

ADDRESS TO THE CALCUTTA CHAMBER OF COMMERCE,
DECEMBER 8, 1893¹

HAVING received a cordial welcome in Calcutta from the Bengal Chamber of Commerce, I am anxious to express, in a practical form, my appreciation of your kindness. Our naval position is under anxious discussion at home. On the last occasion when a like feeling of anxiety was displayed, I was invited by the London Chamber of Commerce to address them on the Navy. It seemed possible that a statement reviewing and comparing our Navy with those of Foreign Powers would be acceptable to a powerful commercial association, with which it is my privilege to find myself connected during my present deeply interesting visit to the noble capital of our greatest dependency.

And now, let us ask ourselves why it is that the public mind at home is once more disturbed and anxious with reference to the state of the Navy. The reason is obvious. A Russian squadron has recently visited Toulon, and has there been received by the French people with an effusion of welcome which could hardly have been exceeded if Russia had rendered the most conspicuous services to the French people. The visit of the Russian fleet has drawn attention more particularly to the relative strength in the Mediter-

Cause for
anxiety at
home

¹ [This was not received in time to be included in Part I.—
EDITOR.]

Position in
Mediterranean

anean. It has been discovered that our squadron, as at present constituted, is inferior to the French squadron in the Mediterranean, and still more to the French supplemented by the Russian squadron. The French squadron permanently commissioned consists of nine battle-ships, one armoured cruiser, two protected cruisers, six look-out ships, two torpedo gunboats, and six sea-going torpedo boats. In reserve, and commissioned for six months only, the French have eight iron-clads, mostly of the second class, two armoured cruisers, three protected cruisers, two look-out ships, two torpedo gunboats and four sea-going torpedo boats.

The Russian squadron which has recently visited Toulon consisted of five ships: the 'Emperor Nicolas I.,' 'Admiral Nachimoff,' and 'Pamyat Azova,' the first of which may be described as an ironclad of the second class. They were attended by a protected cruiser and a gun-vessel.

Strength
of our
Mediterranean
squadron

The British fleet actually in commission in the Mediterranean is considerably inferior to the combined squadrons of France and Russia. It consists of ten battle-ships, eight of which are of the first class, two first-class cruisers, four smaller cruisers, three look-out ships, the torpedo-ram 'Polyphemus,' one torpedo gunboat, five smaller vessels, and twelve torpedo boats. It would be easy to reinforce our Mediterranean fleet by detaching ships actually in commission in the Channel fleet, and in our Reserve squadron at home. I should deprecate any step which, while it would add nothing to our effective squadron in case of war, would certainly be calculated to excite emulation in naval preparations. By inciting France to fresh efforts, it must involve the necessity for throwing heavier burdens on our own exchequer.

In considering our naval position, we must take into view our fleet as a whole. A comparison extending beyond the limits of the Mediterranean will show that our force in commission is not far below that standard of equality to any two Powers which was laid down by the late Government, and was accepted without question by Parliament. As I have shown, we have a decided inferiority in the Mediterranean. That inferiority disappears when we take into the comparison our Channel fleet and Reserve squadron. Our Channel fleet consists of four battle-ships, two of the largest class, two armoured cruisers, and two fast smaller vessels. In the home ports, manned with reduced crews, which can at a day's notice be completed from the Coast Guard, we have a Reserve squadron consisting of six efficient second- and third-class battle-ships, one armoured cruiser, and two coast-defence ships. In addition, we have three third-class battle-ships and two armoured cruisers in commission as port-guard ships. Our aggregate strength in home waters is thirteen battle-ships, five armoured cruisers, two coast-defence ships, one third-class cruiser, and one torpedo gunboat. I have not the precise information at hand, but I believe that some of the older ships in commission in home waters have been replaced by more modern vessels.

Fleet in
home waters

The French Channel fleet is weak in comparison with the force which it is their policy to keep concentrated in the Mediterranean. Their Northern squadron, answering to our Reserve squadron, consists of two battle-ships, three coast defenders, one armoured cruiser of the oldest type, one first-class cruiser, one third-class cruiser, one torpedo cruiser, two torpedo gunboats, and six sea-going torpedo boats. Half of these are in reserve. They are manned with full crews for six months only.

French
Channel
squadron

Torpedo
boats

I have not included torpedo boats in this statement of the British force in commission in home waters. As it is seen every year, during the far too short period when vessels are specially commissioned for the manœuvres, we have a large number of torpedo boats ready for sea at short notice. We have no inferiority to the French in torpedo boats for the defence of our own coasts. In the Mediterranean we are weak. Looking, however, to the torpedo boat as chiefly valuable for coast and harbour defence, we should naturally expect to find that the French, who have a long line of coast and important harbours to defend, would be superior to England in a naval arm which is more often a hindrance than a help to those in command of sea-keeping squadrons.

Comparative
strength of
England and
France in
Europe

Having examined the composition of the several squadrons in detail, we find the aggregate strength of ships in commission in European waters to be as follows :

	England	France
Battle-ships	22	19
Coast-defence ships	2	3
Armoured cruisers	7	3
First- and second-class cruisers	2	7
Look-out ships and torpedo cruisers	4	10
Torpedo gunboats	3	6
Sea-going torpedo boats	—	16

Abroad

It will be of interest to the members of the Calcutta Chamber of Commerce if I briefly compare the relative force of England and France in Eastern waters.

On the Australian, China, and East India stations the French have one armoured cruiser, two second-class cruisers, four third-class cruisers, five sloops and gunboats. We have one coast-defence ship, two armoured

cruisers, two second-class protected cruisers, five third-class protected cruisers, two second-class cruisers unprotected, ten third-class unprotected cruisers, thirteen sloops and first-class gunboats, two torpedo gunboats, and two smaller gunboats. The 'Boadicea' is, I understand, to be shortly replaced by one of the new first-class cruisers as flag-ship on the East Indian station. In this list the ships in reserve in Australia and Bombay are not included. Under actual conditions, it is clear that no anxiety need be felt as to our power of holding our own in the Eastern seas.

I have already observed that in comparing our naval position to that of other Powers, we must look not at any particular squadron, but at the collective force in commission. The true measure of our strength must be taken on a still wider comparison. We should look at the whole available force of efficient fighting ships on the respective Navy lists. How do we stand in this regard in comparison with France and Russia combined? In answering this question, I will deal only with the line-of-battle ships. Nothing will compensate for any inferiority in this essential element of naval power. On battle-ships our command of the sea depends, and in this class of ship it is all important that we hold an indisputable supremacy.

Comparative
strength in
battle-ships

In first-class battle-ships completed we are, at the present moment, or shall be at the conclusion of the present financial year, up to our accepted standard of strength. We have nineteen ships as against nine French and three Russian ships. Amongst the nineteen British ships are included eight splendid vessels of the 'Royal Sovereign' class, far superior in every point of fighting efficiency to any ships as yet completed for the French or Russian fleets.

First class

Second class

Turning to battle-ships of the second class, we have twelve ships to nine French and four Russian. The French list includes six ships with a powerful main armament and fair protection, but of low freeboard. Such ships are effective for coast defence ; they cannot be reckoned as fit for keeping the seas. In second-class battle-ships we are not up to standard.

Third class

In battle-ships of the third class, the British Navy has thirteen ships to seven French and four Russian. In this class we are not up to standard. Our superiority is due mainly to the fact that our ships are of iron, while, with one exception, those of the French are built of wood. And now, having enumerated the ships, it will be appropriate to insist that the failure to attain our standard of strength in the second class is not the chief cause of anxiety. It is when we turn to the ships under construction that our deficiency is most apparent. We have in construction three battle-ships only—the ‘Renown,’ ‘Magnificent,’ and ‘Majestic.’ The two latter, which are hardly commenced, are ships of 15,000 tons, and more powerful than any in hand elsewhere. The French are building no less than ten battle-ships, six being from 11,000 to 12,000 tons, and four of 6,500 tons. The Russian list comprises eight ships—one of 12,500 tons, three of 11,000 tons, two of 10,000 tons, and two of 8,000 tons. While, therefore, we have only three battle-ships under construction, we find that no less than eighteen are building in France and Russia.

Rapidity in construction

We may be able to build, and we do build, more rapidly than has hitherto been found to be practicable abroad. With every allowance for differences in the rate of advancement in shipbuilding, it is clear further exertion on our part can no longer with safety be post-

poned. We want from the Admiralty, after due deliberation, a new and comprehensive programme of construction.

We may now turn to the various types not included in the lists of battle-ships, taking those built and building together. In coast-defence ships we are weak ; we have twelve ships to twenty French and twenty-eight Russian ships. Half of the French ships are armoured gunboats. This description may be applied to two of our own and to several of the Russian ships of this class.

Coast-
defence
ironclads

Passing to the vessels whose special mission it would be to give protection to commerce, we have eighteen armoured cruisers compared with thirteen French and ten Russian. Our strength in this class is less than we could wish. In the class of protected cruisers we have thirteen ships to eight French and one Russian. Amongst the British ships are included the 'Powerful' and 'Terrible' of 14,000 tons displacement and twenty-two knots speed, intended as an answer to the Russian 'Ruriks.' Though numerically not up to our standard of strength in this class, our ships are, in every case, more powerful than those of the French or Russian Navy.

Armoured
cruisers

We have fifty-four protected cruisers of the second and third classes to nineteen French and two Russian. Six of the French ships are under 2,000 tons, while no British ship in this class is below 2,500 tons. In this class we are apparently up to our standard of strength ; but when we take into consideration the fact that the aggregate mercantile tonnage of the British Empire is 12,455,087, valued at 122,000,000*l.*, and that the aggregate tonnage of the French Mercantile Marine was 1,057,708 in 1892, valued at 10,100,000*l.*, while the

Second- and
third-class
cruisers

Russian Mercantile Marine was 481,799 tons, valued at 3,000,000*l.*, it would be rash to assert that our force in cruisers is sufficient to protect the enormous interests involved. In concluding this comparative review, it may be mentioned that we have nineteen look-out ships to six French. The Russians have no ships in this class. We have thirty-two torpedo gunboats to thirteen French and eight Russian. One general observation, and not less obvious, may perhaps be made.

Size of our
battle-ships

In a comparison of strength resting entirely on the number of ships we do scant justice to ourselves. Our construction in the class of battle-ships has for some years been limited to ships of a size quite unmatched by any other Navy, except that of the Italians. We may fairly credit our naval architects with ability to make the force of the ships produced from their designs proportionate to their tonnage. If we had kept the average tonnage of our recent battle-ships within the limits accepted by the French, we should have made a better comparison in point of numbers.

Advantages
of moderate
dimensions

I have always been against the policy of putting too many eggs in one basket ; and I hold the same opinion still. The largest ship of war must always remain, in some respects, as vulnerable as ships of moderate dimensions. In the Great War numbers were found by experience to be more important than the size and power of individual ships. Nelson's victories at the Nile and at Trafalgar were obtained by concentrating a superior number of his ships on an inferior number of the enemy's ships. We have in the 'Royal Sovereign' class a sufficient number of huge vessels to deal with the larger ships building for France and Russia. In my view, the naval requirement of the country would be far better served at the present moment by the con-

struction of a larger number of vessels of the dimensions of the 'Centurion' and 'Barfleur,' than of a smaller number of vessels of the dimensions of the 'Majestic' and 'Magnificent.'

The limits of time, and the power of attention available at the close of a busy day, will not allow of an exhaustive treatment of a theme of supreme national importance. Our comparison, being confined to ships specially built for war, has necessarily left out of view the relative resources of the British Empire, and those at the command of our rivals. If those resources be called upon before it is too late, we need entertain no apprehensions as to the continued maintenance of our beneficent influence for the spread of trade, commerce, and the civilisation which will surely be given in time to every land where our administrators and merchants are found.

INDEX

TO

THE SECOND VOLUME

- A. B., advisability of examination for rating of, 126
- 'Achilles,' as a cruiser, 323; speed of, 325
- Aden, resolution to maintain its strength as a fortress, 263; defective character of its anchorage, 264; dredging operations necessary, 270
- 'Admiral' class of ironclads, 309, 320
- 'Admiral Nachimoff' (Russian ironclad), 332
- Admiralty, limits to its powers of administration, 2; and Board of Trade, Committee appointed by, to revise regulations of Royal Naval Reserve, 59; Select Committee (1861), 80; establishment of training ships by, 70; taking over ships from philanthropic societies, 70; opportunity of improving the qualification for commissions in the Reserve, 137; agreement with shipowners on hire for vessels in time of war, 227; arrangements with shipowners for adaptation of vessels to war purposes, 236, 237
- 'Adriatic,' her average speed from Queenstown to Sandy Hook, 232
- Advance notes, evils of, 109, 124
- 'Agincourt,' in the naval manoeuvres, 322; speed of, 325
- Agricultural labourers employed as fishermen, 79
- 'Aide Mémoire de l'Officier de Marine,' quoted, on the French torpedo flotilla, 327, 328
- 'Ajax,' her unsatisfactory steering qualities, 311
- 'Alabama' (Southern warship), 4
- 'Alexandra,' speed of, 325
- Allotment notes, advantages of, 109
- Anderson, Sir James, captain of 'Great Eastern,' 73
- Anglesey, Lord, his interest in the Liverpool Naval Artillery Volunteers, 196
- Apprentices, merchant, under compulsory Navigation Laws, 9; cost of, in training ships, 10; State bonus suggested in aid, 11; entry and training, 12; service in the navy as a preliminary to entry in the Royal Naval Reserve, 12; bonus to shipowners for taking, 14, 70, 71; terms of apprenticeship, 71; Government encouragement of, 112
- Apprenticeship, naval, in Sweden, 8
- 'Arawa,' her run from New Zealand to England, 244
- 'Archer' type, 317, 318; as a training ship, 319
- 'Arethusa' type, 317
- Armada, the, mainly vanquished

- by a fleet drawn from the mercantile marine, 53
 Armament, the question of heavy or light guns, 227
 Armstrong, Lord, on quick-firing ordnance, 322
 Artificers, training of, 319
 Ascension, defences of, 270; requirements necessary, 271
 'Audacious,' as a cruiser, 325
 Australia: character of port defences, 267; land forces, 267; floating defences, 268. *See* Colonies
 Australia, South, products of, 208. *See* Colonies
 Australia, Western, products of, 208. *See* Colonies
 Austrian Lloyd's, subsidies, steamers, and tonnage, 241
 Austrian navy, years spent by young officers at the Naval Academy, 294
 Auxiliary cruisers, 225 *et seq.*; importance of speed, 229
- BAB-EL-MANDEB, Straits of, torpedo boats for, 305
 Baird, Admiral, in the naval manœuvres, 315, 322
 Balfour, Mr., shipowner of Liverpool, on the increase of pay to seamen for good conduct, 126
 Baltic, the, as a cruising ground, 295
 Bantry Bay, manœuvres of evolutionary squadron in, 300, 306; advantages of, as a theatre for operations, 315
 Barbados, as a military station, 278; staff of army at, 278
 'Barfleur,' 339
 Barnaby, Mr., naval constructor, 225, 229
 Bay of Fundy, volunteers for Canadian Naval Reserve at, 220
 Beaconsfield, Lord, on colonial encouragement and defence, 212; his references to Cyprus in 'Tancred,' 261
 Belgium, merchant tonnage of, 239
 'Belleisle,' 55
 'Benbow,' weak points in, 320
 Berehaven, naval manœuvres at, 299 *et seq.*; 315; blockade of, 320
 Berkeley, Admiral, advocates enrolment of fishermen in reserves, 24, 36; on selection of officers for coast-defence service, 26
 Bermuda, naval arsenal at, 281
 'Bird' class of cruisers, 308
 Birthplace of men and boys serving in the navy in 1852, 37, 38
 'Black Prince,' speed of, 325
 Blacksod Bay, 291
 Blockading, difficulties of modern, 315
 'Boadicea,' 335
 Board of Trade, opportunity for raising professional status of merchant officers, 136
 Bombay, its defences, 264; requirements necessary, 270, 271
 Booms for harbour defence, 299, 305
 'Borda' (French training ship), 294
 Borneo, 266
 Bourniot, M., on the value of Canadian fishing fleet to Imperial navy in war-time, 220
 Brassey, Lord, on our Naval Reserves and Coast Volunteers, 1 *et seq.*; his plan for dealing with Royal Naval Reserve, 16; testimony to qualities of fishermen for coast defence, 24; on our reserves of seamen, 52 *et seq.*; his eulogium of yachtsmen drawn from Essex fishermen, 77; on the Naval Reserves, 89 *et seq.*, 106 *et seq.*, 145 *et seq.*; on how best to improve and keep up the seamen of the country, 114 *et seq.*; on Greenwich Hospital funds and pensions, 139 *et seq.*; on the Royal Naval Reserve and

- Artillery Volunteers, 145-152, 155, 158 *et seq.*; his speech to the Royal Naval Artillery Volunteers, 196 *et seq.*; letter to the *Times* (1891) on same, 201; letter to Mr. Goschen on same, 202; on a Colonial Naval Volunteer Force, 207 *et seq.*; on auxiliary cruisers, 225 *et seq.*; on colonial defence and coaling stations, 246 *et seq.*; on naval training and education, 285 *et seq.*; on naval manoeuvres, 299 *et seq.*; on the strength of the British Navy, 331 *et seq.*
- Brightlingsea, fishermen at, 78
- Bristol Channel, torpedo boats for, 304
- 'Bristol,' teaching of seamanship on board, 287
- 'Britannia,' naval instruction on, 286
- British India Line, steamers and tonnage, 241
- Burgoyne, Captain, his conduct in the catastrophe to the 'Captain,' 224
- Burns, Mr., 119; on structural arrangements in new steamers, 236
- CALCUTTA Chamber of Commerce, address to, by Lord Brassey on British Navy, 331 *et seq.*
- 'Calloope,' escape of the, 291
- 'Cambridge,' school of gunnery, 72
- Canadian Dominion, resources of, in ships and men, 218; Newfoundland fishermen, 218; opportunities for drill in winter, 218; effort to enrol fishermen in Naval Reserve of the British empire, 218; drill-ship in winter at St. John's, 219; training ships in Placentia and Trinity Bays, 219; ports in the Gulf of St. Lawrence available for seamen of Naval Reserve, 220; value of fishing fleet to Imperial navy in war-time, 220; total strength of men employed in fisheries, 220; Lord Elgin on intimate union with the mother-country, 221; a Naval Reserve advisable for colonial as well as for Imperial purposes, 221; no large expenditure required for scheme of defence, 221; staff of officers and instructors to be furnished by the mother-country, 222; a colonial reserve a link with the Royal Navy, 224
- Cantyre, 291
- Cape Colony, defences of, 269; requirements necessary, 271
- Cape of Good Hope in 1845, 207
- Cardwell, Lord, his commission on naval reserves, 107
- Carnarvon, Lord, president of the Royal Commission on the defence of the empire, 263
- Castries (St. Lucia), central coaling station for West Indies, 278; unhealthiness of the bay, 279, 281; site of town a disadvantage, 279; necessity for limiting population, 280
- Catherine II. of Russia, her devotion to the fleet, 54
- 'Centurion,' 339
- Channel Fleet, the, 333
- Channel Islands, contribution in 1852 of men and boys to navy, 39; fishing boats and men and boys registered in 1869, 44-51
- Charleston, blockade of, in Secession war, an example of reduced number of seamen required in modern war, 4
- Charlottetown, Gulf of St. Lawrence, volunteers for Canadian Naval Reserve at, 220
- Chatham Chest, the, 142
- Childers, Mr., on the navy, 31
- China Sea, cruisers for convoy in, 325
- 'City of Berlin,' log of, from

- Queenstown to Sandy Hook and return, 230
- 'City of New York,' allowed to hoist the stars and stripes, 242
- 'City of Paris,' 242; speed, 243
- Clyde, the, steam shipping in, in 1870, 10; torpedo boats for, 304
- Coaling stations, defences of, 263-270; requirements necessary to complete, 270, 271
- Coast Defence Association, Lord Cowper's share in establishment of, 199
- Coast Defence Volunteers, 1; Commission of 1860, 5; estimate 1871-72, 5; neglect of, 21; deficiency in numbers, 22; available sources of increase, 22; qualifications of fishermen for coast service, 22; physique of Scottish, 23; rejection of unsuitable men, 23; attempt to form a second-class reserve, 23; advantages of local coast knowledge possessed by fishermen, 23; their aptitude, 24; their enrolment advised by naval reformers, 24; ports at which the best men are to be obtained, 25; training for service on men-of-war, 25; selection of officers, 25; in alliance with Coast Guard, 26; number of officers required, 26; number of vessels, 27; stations for posting reserve vessels, 27; officers drawn from Coast Guard, 27; retainers for service, 28; number of vessels the force is capable of manning, 29; coast-defence flotilla, 29; distribution of men in flotilla, 30; replacing Coast Guard, 30; age extended in 1852, 62; recommendations of Committee of 1852 and their results, 76; number and quality of fishermen suited for service, 76; local knowledge of fishermen, 77; fishermen in gunboats, 78; unwise rejection of fishermen for reserve, 78; their leisure for drill, 79; original plan in formation, 80
- Coast Guard, Commission of 1860, 5; estimate 1871-72, 5; its duties combined with command of Coast-defence Reserve, 26; number of officers employed in, 27; to furnish officers for coast-defence reserve, 27; replaced by Coast Volunteers, 30; numbers of, in 1859, 57; gunboats desirable to increase their efficiency, 147; success of the Life Insurance Fund, 149; good behaviour of men, 323; the first and best reserve, 324
- Colbert, establishes a system for pensioning seamen, 133
- Coles, Captain, devises the raft 'Nancy Dawson' for operations in the Sea of Azof, 160
- Collectors of Customs, Reports of, in 1869, on fishing boats and men and boys registered in the United Kingdom, &c., 44-51
- Colomb, Admiral, on the losses sustained upon English coasts in the time of the great war, 199; on coast defence, 199
- Colomb, Captain, favours co-operation of colonies with mother-country for mutual defence, 212; his proposition of a colonial dockyard, 213; favours ironclads for colonial defence, 215; on local harbour defence, 215
- Colomb, the Brothers, urge the formation of a colonial Naval Reserve, 209
- Colombo, character of its defences, 265; requirements necessary, 271
- Colonies, organisation of a naval reserve in, 207; growth since 1845, 207; Australian exhibits in Paris Exhibition, 207; Queensland, population, products, exports and imports, 208; South

- Australian products, 208; necessity for Naval Reserve, 209; Royal Naval Reserve and Royal Naval Artillery Volunteers may serve as models, 210; Naval Reserve in connection with Imperial Government, 210; attachment to England, 211; value to England, 212; home dockyard to be transferred to Sydney or Melbourne, 213; local defence, 214; contributions of the several governments, 214; prepared to bear their share in a scheme of Imperial defence, 214; sea-going war vessels best for defence, 215; local harbour defence, 215; reserve of ships and men in Australia, 216; a Royal Commission advised on this point, 217; importance of organising a scheme of defence, 217; resources of Canada in ships and men, 218; value of Newfoundland fishermen for defence, 219 *et seq.*; Canadian ports available for seamen of Naval Reserve, 220; close union with mother-country to be facilitated by improved means of communication, 244; the future of Cyprus, 246 *et seq.*; Australia's defences and land forces, 267, 268
- Commissariat, defects of the, in the British army, 248
- Compagnie Générale Transatlantique, subsidies, steamers, and tonnage, 241
- 'Conqueror,' at battle of Trafalgar, 55
- 'Conqueror,' qualities as a cruiser, 321
- 'Conquest,' qualities of, 307, 308
- Conscription, naval, in France, 56
- 'Conway,' training of officers on, 72, 113
- 'Coquette' class of gunboats, 227
- Cork, as a station for coast-defence vessels, 27
- 'Cormorant,' 307, 308
- Cowper, Lord, his interest in the Coast Defence Association, 199
- Crimean war, want of a reserve of engineers and firemen, 30; navy stokers in, 85
- Crimping, 109
- 'Crocodile,' character of stokers, 85
- Cunard Line, outwards and homewards run of steamers from England to America, 230-231; subsidy, steamers and tonnage, 241; requires previous sailing service in officers, 288
- Cyprus, offers no advantages as an advanced military post, 246, 256; as a coaling-station, 247, 256; condition of the troops landed in 1878, 247, 256; defects of the Commissariat department, 248; resources, 250; liability to drought, 250; need for public works, 251; disadvantage of the Turkish tribute, 251, 259; oppressive taxation, 251, 253; invidious position of our occupation, 253; its acquisition a question of Imperial policy, 254; agriculture, 258; how the resources of the island might be developed, 260; influence of good government, 260
- DAHLGREN, Admiral, on work done by monitors at Charleston, 5
- Darsey Island, 315
- Dawson, Captain, R.N., his views on the numbers and quality of merchant seamen, 8; on paying off, 125
- Deakin, Mr., on colonial naval reserves, 268
- 'De la Guerre Maritime,' Grivel's, quoted on naval resources of maritime powers, 3
- Denman, Admiral, on number of

- seamen required in time of war, 33
- Denmark, years spent by officers in the navy school course, 294
- Desertion from the navy, Lord Nelson on, 35; causes of, among British sailors, 122
- 'Devastation,' disadvantages of her low freeboard, 309, 320
- Docks, advantages of private establishments, 271
- Dockyards, proposition of Captain Colomb to transfer staff of one to Sydney or Melbourne, 213
- 'Donegal,' 55
- Drake, at the defeat of the Armada, 53
- 'Dreadnought,' 309
- Dumont, M., his plan for training boys as seamen, 70
- Dunlop, Mr., of Glasgow, on the ability of shipowners to man their vessels, 115
- Durassier, M., on the French torpedo flotilla, 327
- 'Economist,' on the transition in character of mercantile fleet, 9
- Edinburgh, the Duke of, his recommendations for the Naval Reserves in 1883, 145
- Education, naval, recommendations of Committee on, 286, 287, 293
- Eighty-one-ton gun, the, 232
- Eldridge, Consul, on the effect of the English occupation of Cyprus, 260
- Elgin, Lord (Gov.-Gen. of Canada), on the advantages of intimate union between Canada and Great Britain, 221
- Elizabeth, Queen, the navy and mercantile marine in her reign, 53
- Ellenborough, Lord, advocates a compulsory seamen's pension fund, 133
- Elliott, Admiral, his testimony to value of Naval Reserve, 58; on stokers in the navy, 85
- 'Emperor Nicolas I.' (Russian iron-clad), 332
- Engineers, reserve of, for sea-going cruisers, 30
- England, birthplace in, of men and boys serving in the navy in 1852, 37; towns in 1852 contributing more than fifty men and boys to navy, 38; towns or their neighbourhoods in which boys in training ships (1871) were born and entered, 40, 41; counties in which they were born, 42; fishing-boats and men and boys registered in, in 1869, 44-48
- Essex fishermen as yachtsmen, 77
- Evolutionary squadron, cruise of the, in 1885, 299 *et seq.*; behaviour of torpedo-boats in cruise round west coast of Ireland, 305; deficiency of cruisers in length, 307; as a display of naval forces, 311; employment of officers of the Naval Reserve in, 313
- 'Excellent,' plan for training Naval Reserve officers on, 21; school of gunnery, 72, 113, 290, 304; enthusiastic ovation given to crew in London, 156; for R.N.A.V. training in gunnery, 204
- Expenditure of principal maritime powers on navy, 6
- FAMOGUSTA, Cyprus, as a coaling-station, 247; unhealthiness, 258
- Ferry-boats, capability of, to carry guns, 232
- Firemen, reserve of, for sea-going cruisers, 30
- Fisheries, increase in the, beneficial for the Naval Reserve, 146

- Fishermen, English, advisability of increasing the number of gunboats for training, 112; for coast defence, 22-24; naval authorities in favour of enrolment in reserve, 36; value of, as Coast Volunteers, 76; in gunboats, 77; unwise rejection for reserves, 78; aptitude, 79; agricultural labourers employed as, in Norfolk and Suffolk, 79; their leisure for drill, 79
- Fishermen, French, for coast defence, 22
- Fishermen, Irish, for coast defence, 22
- Fishermen, Scottish, for coast defence, 22; physical superiority, 22, 23; suitability, as Coast Volunteers, 76
- Fishing, ordinary mode of, in the United Kingdom, 44-51
- Fishing-boats registered in the United Kingdom, Isle of Man, and Channel Islands, 44-51
- Fitzroy, Admiral, in naval manoeuvres, 320
- Flying squadrons, advantage of, 293
- 'Foam,' the, 170
- Forth, the, torpedo boats for, 304
- Fortifications, a cheap method of defence, 263
- France, seafaring population and tonnage of, 3; annual expenditure on navy, 6; naval and mercantile tonnage, 6; conditions of the 'Invalides' pension, 15; men employed in fisheries, 21; numbers of reserve recommended by Commission of 1843, 22; fleet at Napoleon I.'s disposal, 54; tonnage in 1871, 54; maritime conscription, 55; Naval Reserve, 106; steam tonnage, 226; command of seafaring population in an emergency, 235; merchant tonnage, 239; subsidies for mail services, 239; total foreign trade, 239; bounties for construction of ships and mileage subsidies, 239; increase of lines of steamers under State subventions, 240; age of entry in navy, 286; years spent by officers in training at sea, 294; torpedo vessels, 303, 334; distribution of armour in ironclads, 310; discrepancy in statements of authorities on numbers of torpedo boats, 327, 328; reception of the Russian fleet at Toulon, 331, 332; Mediterranean squadron, 332; Channel squadron, 333; aggregate strength of ships in European waters, 334; ships on Australian, China, and East India stations, 334; first, second, and third class warships, 335, 336; coast-defence ironclads, 337; armoured cruisers, 337; protected cruisers, 337; aggregate tonnage of mercantile marine, 337
- Freeboard, low, disadvantages of, 309, 320
- French army, excessive number of *corps d'élite* in, 118
- French mercantile marine, Enquête Parlementaire on, 70
- Frobisher, at the defeat of the Armada, 53
- Fullerton, Captain, of Melbourne, his active interest in colonial naval reserves, 268
- GALITA, Island of, necessity for a light on, 276
- Gardner, Captain, on the inefficiency of former naval crews, 55; testimony to value of Naval Reserve, 58
- Gaspe, Gulf of St. Lawrence, volunteers for Naval Reserve at, 220
- German shipmasters, their superior education, 135
- 'Germanic,' quick run from Queenstown to Sandy Hook, 232

- Germany, Naval Reserve of, 106 ; unarmoured cruisers, 234 ; merchant tonnage, 238 ; total foreign trade, 239 ; subsidies for mail services, 239 ; course of instruction for naval officers, 295
- Gibraltar, maintenance of its strength as a fortress, 263 ; want of a graving dock, 271, 275 ; unprotected state of coal hulks at night, 275 ; term of military service at should be reduced, 276
- Goldsborough, Admiral (U.S.N.), on vessels for coast defence, 33
- 'Goliath,' discipline exhibited by crew on its destruction by fire, 131
- Goodenough, Commodore, on naval reserves, 106 ; his closing hours, 224 ; on the ignorance of French shown by English naval officers, 287
- Goschen, Mr., approves the formation of Naval Volunteers, 81 ; on the Royal Naval Artillery Volunteers, 153 *et seq.*
- Gould, Mr., on the defective education of English shipmasters, 134
- Graham, Sir James, his aid in formation of Naval Coast Volunteers, 80
- Graves, Mr., on tapping the whole country for the navy, 34
- Gray and Hamilton, Messrs., on the mercantile marine in 1872, 108
- Gray, Mr., of the Board of Trade, his proposition that Government should take over training-ships from philanthropic societies, 70
- Great Britain, seafaring population and tonnage of, 3 ; fishing-boats and men and boys registered in, in 1869, 44-51 ; value of colonies to, 212 ; co-operation for mutual defence, 212 ; progress of British shipping, 213 ; schemes of Imperial defence in co-operation with colonies, 214 ; subsidies to mail services and total foreign trade, 239. *See* Navy
- 'Great Eastern,' manned from the navy when cable-laying, 73
- Greenwich Hospital, object for which founded, 139 ; the Merchant Seamen's Fund, 140 ; compensation provided on its abolition, 141 ; derivation of its funds, 142 ; their present utilisation, 143 ; benefits of the establishment, 143
- Greenwich Naval College, 292, 293
- Greenwich Naval University, 113, 137
- Grey, Sir Frederick, approves recommendations of Royal Commission of 1859 on training ships, 69 ; his own proposition on same, 69, 71 ; on naval reserves, 107 ; on training ships, 129 ; on apprenticeship system, 132
- Grimsby, increase of fishing at, 146
- Grivel, Captain Richild, his 'De la Guerre Maritime' quoted on naval resources of maritime powers, 3 ; on pensions in French navy, 15
- Grove Park Rowing Club, 173
- Gulf of St. Lawrence, naval volunteers in the, 219
- Gunboats, advisability of increasing the number of for training purposes, 112
- HALF-PAY and retired lists, cost of, 73
- Halifax, Lord, on the original plan of formation of Naval Coast Volunteers, 80
- Halifax, Nova Scotia, training ship for Canadian Naval Reserve at, 220
- Hall, Sir William, for enrolment of fishermen in reserves, 24

- Halpin, Captain, 'Great Eastern,' 73
- Hamburg American Company, subsidy, steamers, and tonnage, 241
- Hamilton, Lord George, on the rôle of merchant auxiliaries to the navy, 242
- Harbour-defence ships, Captain Colomb's opinion regarding, 215
- Harris, Captain, on naval training, 286
- Hastings, Admiral, for enrolment of fishermen in reserves, 24, 36; on number of vessels required for coast defence, 27
- Hawke, Admiral, 296
- Hawkins, at the defeat of the Armada, 53
- Hay, Lord John, 258
- Heaton, Mr. Henniker, on subsidies for mail services, 239
- 'Hercules,' as a cruiser, 323; speed of, 325
- 'Hero,' drill and target practice on, 204; qualities as a cruiser, 321
- Hickley, Admiral, 143
- Hill, Governor, his report on the Newfoundland fisheries, 218
- Hixon, Captain, of Sydney, his active interest in colonial naval reserves, 268
- Holland, years spent by young naval officers at school in, 294
- Holyhead, as a station for coast-defence vessels, 27
- Hong Kong, completion of a graving dock at, 271
- Hornby, Sir Geoffrey, his skilful direction of the fleet in the instructional cruise of 1885, 291, 299; his management of torpedo boats with the evolutionary squadron, 305; on the necessity of more cruisers, 323
- Horsey, Admiral de, on the necessity of officers being instructed in navigation, 297
- Howard, Lord, at the defeat of the Armada, 53
- Hull, increase of fishing at, 146
- Humber, torpedo boats for the, 304
- ILEX Rowing Club, 173
- Impressment, 18; in 1774 and 1812-1813, 35
- 'In a Conning Tower,' quoted, 320
- 'Inconstant,' built for speed, 229
- India, cruisers for protecting commerce en route to, 325
- Inman Line, its system of engaging seamen, 108; log of 'City of Berlin' from Queens-town to Sandy Hook and return, 230; postal subsidy, 242; permission to hoist the stars and stripes, 242; speed of vessels, 243
- Ino Rowing Club, 173
- Invalides pension in France, 15
- Ionian Islands, 294
- 'Iphigénie,' French sea-going training ship, 295
- Ireland, birthplace in, of men and boys serving in the navy in 1852, 38; towns in 1852 contributing more than fifty men and boys to navy, 39; towns in which boys in training ships were born and entered, 41; fishing boats and men and boys registered in, in 1869, 48-51; west coast of, 294
- 'Iris,' in manœuvres, 316
- Isle of Man, fishing-boats and men and boys registered in, in 1869, 44-51
- Isleworth Rowing Club, 173
- Italy, subsidies for mail services, 239; total foreign trade, 239; bounties on construction, 240; training of artificers and stokers, 319
- JAMAICA, staff of army in, 278

James, Mr., historian, quoted, 116
 Jervois, Sir William, and the defences of Australia, 267
 Johnstone, Captain, of the 'Agamemnon,' on the manning of the navy, 326
 Joinville, Prince de, his pamphlet on the French navy, 21; on the French fisheries industry, 21, 22

KEY, Admiral Cooper, on Coast Guard practice in naval tactics under steam, 31; testimony to value of Naval Reserve, 58, 107
 Kiddle, Captain, on the training of naval officers, 295
 Kiel, naval school at, 295
 King George's Sound, its importance strategically, 266; requirements necessary for its defence, 270
 Kingston, Jamaica, 283; a suitable place for a graving dock, 284
 Kingston Rowing Club, 173
 Kithraea, Cyprus, 250
 Kurrachee, character of its defences, 265

'LADY NANCY,' as a typical vessel for coast defence, 30
 Lambert, Mr. (Liverpool N.A.V.), his retirement, 196
 Lampart, Mr., on the employment of foreign seamen, 114; on training for the mercantile marine, 128
 Lang, Hamilton, on the taxes levied in Cyprus, 251
 Larnaca, Cyprus, 258
 'Leanders,' cruisers, 308
 'Lily,' loss of, in the Straits of Belleisle, 292
 Limasol, Cyprus, 258
 Lindsay, W. S., on the Royal Naval Reserve, 12; approves recommendations of Royal Commission of 1859 on training

ships, 69; his own plan, 69; on the policy of enrolling merchant service officers in the reserve, 74, 112; on the average passage of ocean steamers between Liverpool and New York, 230-232
 Liverpool and New York, average passage of ocean steamers between, 230
 Liverpool Naval Artillery Volunteers, prize distribution of the (1888), 196; capitation grant, 197; appreciation of, by the Admiralty, 197; value, 198; Admiral Philimore's report on, 216
 Liverpool Committee of Inquiry into the condition of Merchant Seamen, report of, 9
 London Rowing Club, 173

MACDONALD, Admiral, his enrolment of Scottish volunteers, 76
 'Macedonia,' capture of the, by the American frigate 'United States,' 116
 McIver, Mr., 119
 'Magnificent,' 336, 339
 Mail services, subsidies for, 239
 'Majestic,' subsidy from Admiralty and Post Office, 241; speed, 243; 336, 339
 Malacca, Straits of, torpedo boats for, 305
 Malta, strength, as a fortress, to be maintained, 263; 294
 Malta Channel, torpedo boats for, 305
 Manning the Navy, Committee of 1852 on, 37, 62; on age of admission to Naval Reserve, 62; of 1853, 117; of 1859, 57, 286; on training ships, 68; plan for training seamen, 129; 133; of 1860, 2, 5
 Manœuvres, naval, 299 *et seq.*; employment of officers of the Reserve in, 313; their lessons, 314; difficulty of modern blockade, 315; evolutionary squadron's

- theatre of operations, 315; plan of operations, 315; behaviour of cruisers, 316 *et seq.*; lessons of 1892, 324 *et seq.*; the torpedo in, 329
- Marine Society, on training ships, 67; number of lads made seamen under their auspices from 1756-1870, 67, 68
- 'Mariner,' unarmoured cruiser, 308
- Marines, necessity of increasing, 326
- Martin, Sir Byam, on the number of vessels requisite for coast defence, 27
- Masters, naval, 298
- Mauritius, defences of, 269; requirements necessary, 271
- Mayne, Professor, on subjects of study for the navy, 287
- Mediterranean, the, 294
- Medway, the, as a station for coast-defence vessels, 27
- Melbourne, Australia, proposition to establish a dockyard at, 213
- Mends, Admiral, on naval training, 286
- Mercantile marine, support afforded to navy, 2; interdependence of the two services, 3, 54; supremacy of British over other States, 3; steamers as auxiliaries to navy, 3; organisation required in view of war, 4; numbers and quality of seamen, 7; shipowners on condition of, 9; foreigners employed, 9, 64; effect of the introduction of steam on, 9; training ships, 10; State bonus to shipowners for apprentices, 11, 70; terms of apprenticeship, 12, 71; shipowners' objection to apprentices, 13; premium given by State, 14; bonuses to men on joining Reserve, 14; service in navy, 17; employment of men in time of war, 18; sympathy with navy, 31; Mr. Sackville West on strengthening navy with merchant reserves, 32; Armada beaten by a fleet chiefly drawn from, 53; tonnage in 1871, 54; impressment impossible, 54; development of steam vessels, 63; abolition of compulsory apprenticeship, 63, 65; influence of Suez Canal, 63; proportion of men to 100 tons, 64, 65; wages in sailing and steam vessels, 8, 64; deterioration of seamen incorrectly alleged, 64; crews of yachts, 66; discipline, 72; higher education, 74; annual loss of seamen, 115; complaints of deficiency unfounded, 115-119; improvement in seamen's condition, 117; causes of defects, 119-121; bad treatment afloat, 121; causes of desertion, 122; scurvy, 122; evil of the advance note, 124; delay in paying off, 125; undesirability of uniform rate of pay, 125; training for, 128; character of officers, 134; desirability of a closer union with navy, 138; commissions for masters in the Royal Naval Reserve, 147; progress of shipping, 213; as an auxiliary to the Royal Navy, 225 *et seq.*, 236; strength in ships, 225; steam tonnage, 226, 238, 337; vessels adapted for conversion into cruisers, 226; guns which vessels could carry, 227; hire of vessels in time of war, 227; modifications in structure of new steamers, 228; Government retainer, 228; importance of speed, 229; speed of the great liners, 230-232, 243; number and tonnage of coast steamers, 232; capability of tugs and ferry-boats to carry guns, 232; sailing vessels for training, 233; organisation of a reserve of cruisers, 235; structural arrangements in new steamers, 236; subsidy to shipowners, 236; adaptation of

- vessels as ships of war, 237; subsidies paid for mail services, 239; total foreign trade, 239; competition created by subsidies, 242; rôle of armed merchant steamers in war, 242; subventions, 243; rapid communications with colonies, 244; advantages of subsidising best steamers, 273; fusion with navy, 289; subsidies for service in time of war, 313
- Merchant shipping, Select Committee on (1860), 34; laws, reform of, 109
- 'Mercury,' dealing with torpedo boats in manœuvres, 306; insufficient length of, 307; qualities of, as a cruiser, 308
- 'Mersey' type of ironclads, 308, 317
- Messageries Maritimes, subsidies received by, 240; number of steamers and tonnage, 241
- Messorea, Cyprus, adapted for wheat, 258
- Mill, Mr., quoted, 120
- Millard, Staff Commander, on the climate of Famogusta in Cyprus, 258
- Milne, Admiral Sir David, advocates enrolment of fishermen's reserves, 24
- 'Minotaur,' 304; behaviour of the torpedo boat attached to, 305; speed of, 325
- Mizen Head, Bantry, 315
- Molesey Rowing Club, 173
- 'Monarch,' as a cruiser, 323
- Montreal, Naval Volunteers at, 219
- Morfu, the plain of, Cyprus, 258
- Murray, Captain (P. and O.), on the quality of merchant seamen, 7; on their numbers and cost, 8
- Murray, Sir Digby, 143
- 'NANCY DAWSON,' devised by Captain Coles for operations in the Sea of Azov, 160
- Napier, Sir Charles, advocates enrolment of fishermen in reserves, 24; his proposition on steam reserves, 35; on the enrolment of mercantile officers in Naval Reserve, 74
- Napoleon I., naval fleet at his disposal, 54
- Naval Coast Volunteers, Scottish, 23
- Naval College, Greenwich, 292, 293
- Naval College, Portsmouth, 289
- Naval manœuvres. *See* Manœuvres
- Naval Reserves. *See* Royal Naval Reserve
- Naval University, Greenwich, 113
- Naval Volunteers, scheme for the formation of, 81; difficulties in its execution, 82; drill, 81; officers, 83
- Navigation and pilotage of Her Majesty's ships, 290 *et seq.*
- Navigation laws, incompetency of officers and seamen previous to the repeal of, 108
- Navigazione Generale, subsidies, steamers, and tonnage, 241
- Navy, the, value of support from mercantile marine, 2, 225, 234; organisation, 4; manning, 5; annual expenditure, 6; naval and mercantile tonnage, 6; distribution of men, 6; cost of sailors and reserve men, 7; apprentices under compulsory Navigation Laws, 8; cost of training ships, 10; State bonus on merchant apprentices, 11; impressment, 18, 54; number of apprentices requisite for naval purposes, 19; reserve of engineers and firemen, 30; peace footing, 31; sympathy with merchant service, 31; seamen voted in 1805, 33; recruiting, 34; impressment in 1774, 1811-1813, 35; organisation in time of peace, 52; interdependence of fighting and mercantile

marine, 3, 54, 138; composition of crews in Nelson's time, 55; standard of force not invariable, 56; system of training, 87; cost of training boys, 67; lads drawn from training ships, 67, 71; cost of Half-Pay and Retired Lists, 73; number of officers in excess of requirements, 73; proposal of a reserve of officers, 74; Naval University, 75, 289; union with merchant service, 87; advantages of the system of rating, 126; suggested scheme for training seamen, 132; ships for defence of commerce, 197; Royal Naval Reserve and Royal Naval Artillery Volunteers in aid, 198, 201, 203; question of heavy or light guns, 227; importance of speed in auxiliary vessels, 229; sailing vessels in ports for training, 233; unarmoured cruisers, 233; superiority to other nations, 234; organisation of reserve of cruisers from mercantile marine, 235; shipbuilding on types not existing in mercantile marine, 236; cruisers, 236; subsidy to shipowners, 236; adaptation of merchant vessels to war purposes, 237; rôle of merchant auxiliaries in war, 242; defences of coaling stations, 263-270; graving-docks wanted at foreign stations, 271; advantage of subsidising best merchantsteamers, 273; increase in strength, 275; training and education of officers, 285; advancement of age of entry, 285; subjects of study, 287; brigs for instruction, 287; abolition of special navigating officers, 288; fusion with mercantile marine, 289; navigation and pilotage, 290, 293; disasters due to inexperience, 291; more training at sea desirable, 292; rais-

ing of standard in mathematics, 292; flying squadrons, 293; instructional cruises, 294; cruising grounds for practice, 294; Captain Kiddle on training of naval officers, 295; practice of navigation in sea-going ships, 297; training adapted to modern requirements, 298; alternate service in mastless and masted ships, 299, 300; attack on the boom at Berehaven by the 'Polyphemus' in the naval manœuvres, 1885, 300; matériel, 301; classes of torpedo vessels, 302-305; boats carried in dépôt ships, 304; torpedo boats for coast defence, 304; behaviour of torpedo boats in cruise of evolutionary squadron, 305; defence of fleet by booms, nets, and guard-boats, 305; advantages of speed for cruisers, 306; insufficiency of speed due to want of length, 307; defects and merits of older ironclads, 308, 311, 322; improved machinery, 309; disadvantages of low freeboard, 309, 320; the 'Admiral' class, 309; distribution of armour, 309; modernisation of old ironclads, 310; unsatisfactory steering qualities of 'Ajax,' 311; 'Oregon' as an armed mercantile cruiser, 312; officers of Naval Reserve in evolutionary squadron, 313; selection of efficient types of cruisers, 316; shortcomings of the 'Archer' type at sea, 318; training for artificers and stokers, 319; protection to auxiliary armament, 320; moderate displacement advocated, 321; health of crews, 322; personnel of evolutionary squadron, 323; early ironclads suitable for the protection of commerce, 324; re-adjustment of crews, 325;

- marines, 326; stokers, 326; practice at sea, 326; relative strength of French and English torpedo flotillas, 328; our superiority in catchers, 329; continuous practice in torpedo boats necessary, 329; recent causes for anxiety, 331; Mediterranean squadron, 332, 333; fleet in home waters, 333; torpedo boats in home waters, 334; aggregate strength of ships in European waters, 334; on Australian, China, and East India stations, 334; comparative strength in battle-ships, 335; first, second, and third class war vessels, 335, 336; coast-defence ironclads, 337; armoured cruisers, 337; auxiliary cruisers, 337; size of battle-ships, 338; advantages of moderate dimensions, 338
- 'Nelson,' as a cruiser, 325
- Nelson, Lord, his proposal on naval bonuses and pensions, 15; on a personal incident in impressment service, 34; on desertion from navy, 35; English merchant vessels captured by French privateers in his time, 199; on the morning of the battle of Trafalgar, 223; his early experience in navigating, 288; his seamanship at the Nile and at Trafalgar, 296; his experience as a midshipman in charge of the Nore flagship long-boat, 298, 300; means by which he gained his victories, 338
- Newfoundland, men engaged in fisheries of, 218; effort to enrol fishermen in Imperial Naval Reserve, 218; opportunities for drill in winter, 218; drill ship in winter at St. John's, 219; training ships in Placentia and Trinity Bays, 219
- New South Wales. *See* Colonies
- New York and Liverpool, average passage of ocean steamers between, 230
- Nicholas, Emperor, his attention to the Russian fleet, 54
- Nicolas, Sir Harris, his collection of the despatches and letters of Lord Nelson, 15
- North-German Lloyd Company, subsidies, steamers, and tonnage, 241
- North London Rowing Club, 173
- North Shields, steam shipping at, in 1870, 10
- 'Northumberland,' qualities as a cruiser, 322; speed of, 325
- Norway, steam tonnage of, 226
- OLIVER, Captain, on fishermen, 36
- 'Opal' type of cruisers, 227
- 'Ophir,' her run with the mails from King George's Sound to London, 244
- 'Oregon,' in the naval manoeuvres of 1885, 301; as a torpedo-boat carrier, 304; qualities of, as an armed mercantile cruiser, 312; her defects, 313
- Orient line, speed of vessels, 244
- Osborn, Admiral Sherard, on naval reserves, 107
- Oscillators Rowing Club, 173
- Overstone, Lord, quoted, 206
- PAGET, Lord Clarence, on inefficiency of impressment, 35
- Palmerston, Lord, on invasion, 226
- 'Pamyat Azova' (Russian ironclad), 332
- Paris Exhibition, specimens of British colonial products at, 207
- Pay, evil effects of a uniform rate, 125
- Paying off, evil of delay in, 124
- Peel, Sir Robert, on colonial defence (1850), 222
- Pembroke, as a station for coast-defence vessels, 27

- 'Penelope,' drill on board, 62
P. & O. Company, amount received under Government contracts, 240; number of steamers and tonnage, 241
Pennell, C. H., on impressment for the navy, 18; on cost of impressment in 1773, 35
Pension fund for seamen, necessity for establishing a, 133
Peter the Great, his improvement of the Russian fleet, 54
Phillimore, Admiral, on the Naval Artillery Volunteers, 216
Phillips, Mr., shipowner, 117
Pilotage of Her Majesty's ships, 290
Placentia Bay, Newfoundland, training ship for Canadian Naval Reserve in, 219
Plimsoll, Mr., 238
Plymouth, as a station for coast-defence vessels, 27
'Polyphemus,' her attack on the boom at Berehaven, 300; characteristics as a torpedo-vessel, 302, 329, 332
Port Darwin, defences required for, 269, 270
Port Papho, Cyprus, 248
Port Royal, Jamaica, inefficiency for modern naval demands, 282; its unhealthiness, 283; position of its dockyard, 283
Porter, Admiral (U.S.N.), his report on the American navy, 233
Ports from which coast-defence sea militia are to be obtained, 25; at which reserves of steamers ought to be stationed, 27; for enrolment of Royal Naval Artillery Volunteers, 205
Portsmouth, as a station for coast-defence vessels, 27
Portsmouth Naval College, 289
'Powerful,' protected cruiser, 337
'President,' drill on board, 62; too remote for the drill of London naval volunteers, 156
Prussia, recuperation of, by military organisation, after Jena, 221
'Psyche,' loss of, 289
Quarterly Review, on Naval Reserve, 58
Quebec, naval volunteers at, 219
Queensland. *See* Colonies
'RACER,' unarmoured cruiser, 308
'Rainbow,' fitted out for drilling Royal Naval Artillery Volunteers, 162
Rawson, Captain, on the climate of Famogusta, Cyprus, 258
Reed, Sir Edward, on speed of cruisers with triple expansion engines, 323
'Renown,' 336
Reserve of engineers and firemen, 30
'Resistance,' experiments on, 322
Robeson, Mr. (sec. U.S. Navy, 1869), on securing services of seamen in war-time, 19
Roe, Dr., on the treatment of British sailors, 121
Rogers, Commodore (U.S.N.), on manning the navy, 52
Rouher, M., at Committee on the French merchant service, 55
Rowedge, on the Colne, rejection of fishermen for reserves at, 78
Rowley, Admiral, in the naval manœuvres, 322
Royal Halifax Yacht Club, its recommendations for Canadian defence, 214
Royal Naval Artillery Volunteers, difficulties in assigning them a place in the manning of the navy, 148; use, 151, 201; should be reorganised as a corps of marine artillery, 152, 202; form a second class of naval reserve, 154; necessary

- qualifications, 156; detailed exposition of their services, duties, privileges, and general organisation: recruiting, 158; for harbour defence only, 159; skilled seamanship not essential, 160; strength of force, 160; training, 161-165; Admiralty regulations, 166-195; strength in 1891, 201; duties of which they are capable, 202; Lord Brassey's letter to Mr. Goschen (1873) on the force, 202; desire to be attached to navy, 203; limitations of aim, 203, 204; suggested changes in training, 204; superior intelligence, 205; organisation of sailing clubs, 205; extension of the force, 205; social position, 206; Admiralty control, 206; Admiral Phillimore's report on their conduct and efficiency, 216
- Royal Naval College, 293
- Royal Naval Reserve, 1; Royal Commission on, 2, 5; estimate 1871, 1872, 5; cost of men, 7; expedients to increase numbers, 10; merchant apprenticeship, in aid, 11; alteration in conditions of engagement, 12; bonuses and pensions, 14-16; unfavourable criticism of physique and discipline, 17; necessity of a large, 18; number of apprentices requisite, 19; officers, 20; training of officers, 22; rejection of unsuitable men, 23; numbers to be raised to standard approved by Royal Commission, 28; in alliance with Coast Guard and Coast-defence Volunteers, 29; practice in naval tactics under steam, 32; Mr. Graves's proposition for recruiting, 34; number of, in 1859, 57; value of force, 57; a link between navy and mercantile marine, 57; number of men who would join the fleet on outbreak of war, 58; testimony of naval officers to efficiency, 58; complaints of imperfect knowledge of drill, 58; retainers to men, 17, 59; pay, 59; difficulty in recruiting, 59, 63; rules as to age, 59, 60; joint committee on regulations, 59; service at sea, 60; rules as to drill, 61; as to enrolment, 61; formation of a second class, 61; drill on coast-guard ships, 62; age of entry to second class, 62; increase by modification of rules, 62; a strong reserve would justify reduced expenditure on navy, 66; eligibility of lads after an apprenticeship of four years, 69; organisation of officers, 71; school of gunnery for officers, 72; terms of promotion of officers, 72; creation of a reserve of officers, 74; division into two classes, 76; value of local knowledge of fishermen, 77; second class reserve, 78; inspecting staff, 83; Government regulation of strength, 84; necessity for a Royal Commission on, 86, 106 *et seq.*; Duke of Edinburgh's recommendations for raising in 1883, 145; drill batteries on the coast, 145; beneficial result of the increase in the fisheries, 146; no difficulty in maintaining the First Class Reserve, 146; no evidence of deterioration in English seamen, 147; best mode of manning reserve ships, 147; an essential element of the naval force of the country, 150, 199; the training of stokers, 150; advantage of calling them out for manœuvres, 151; essential for the efficient manning of the navy, 198; commissions limited to officers having passed

- a gunnery examination, 289 ;
at gunnery on board the 'Excellent,' 290 ; employment of officers in evolutionary squadron, 314 ; untried and imperfectly organised, 324
- 'Royal Sovereign' class, 335, 338
- 'Ruriks' (Russian), 337
- Russia, limits of maritime resources, 2 ; seafaring population and tonnage of, 3 ; annual naval expenditure, 6 ; attention paid to fleet by Government, 54, Naval Reserves, 107 ; Sir Garnet Wolseley's description of an imaginary cruise in time of war, 209 ; growing importance of navy in the Pacific, 214 ; unarmoured cruisers, 234 ; subsidies for mail services, 239 ; total foreign trade, 239 ; age of entry in navy, 286 ; school course for officers, 295 ; visit of squadron to Toulon, 331, 332 ; first, second, and third class of war ships, 335, 336 ; coast defence ironclads, 337 ; protected cruisers, 337 ; armoured cruisers, 337 ; mercantile tonnage, 348
- Ryder, Admiral, testimony to value of Naval Reserve, 58 ; on stokers in the navy, 85
- SAILING CLUBS, organisation of, in connection with naval volunteers, 205
- Sailors, evil influences of their life, 133
- St. Helena, defences of, 270 ; requirements necessary, 271
- St. John's, Newfoundland, drill ship for naval volunteers at, 219
- St. Lawrence, Gulf of, naval volunteers in the, 219
- St. Lucia (West Indies), its unhealthiness, 279 ; position, 281
- 'St. Vincent,' training ship, 130
- 'Sandfly' type, 319
- Scandinavian shipmasters, their superior education, 135
- School ships for training boys, 110, 129
- 'Scot,' her average speed between Cape Town and Southampton, 243
- Scotland, birthplace in, of men and boys serving in the navy in 1852, 37, 38 ; towns in 1852 contributing more than fifty men and boys to navy, 39 ; towns in which boys in training ships were born and entered, 41 ; fishing boats and men and boys registered in, in 1869, 48
- Scratchley, Sir Peter, and the defences of Australia, 267
- Scurvy, prevalence of, among British sailors, 122 ; antiscorbutics, 123
- Sea militia for coast defence, ports at which they are best to be obtained, 25
- Seamen, British, supply of, for the navy, 2 ; proportion employed under the British flag compared with foreigners, 114 ; desertions in the early part of the century, 116 ; low wages of, 119 ; difficulties of supplying, 128 ; proposal for a benefit fund, 139
- Seamen, foreign, number employed in British ships, 114
- 'Serapis,' character of stokers on, 85
- Seth-Smith, Mr., provides a schooner (manned by volunteers) voyage to the Azores, 205
- 'Seyn,' in manoeuvres, 316 ; class of cruisers as trainin vessels, 319
- Shaw Lefevre, Mr., his circular, 121
- Sheerness as a central sea-going torpedo training establishment, 330
- Shipmasters, effects of their negligence in endorsing the character of seamen, 110

- Shipowners, merchant, objection to apprentices, 13; bonus to be given, for taking apprentices, 14, 70; Government subsidy to, 236
- Sicily, 294
- Sierra Leone, defences of, 270; requirements necessary, 271
- Simon's Bay, defences of, 269
- Singapore, increase of trade under the British flag, 266; character of its defences, 266; requirements necessary, 271
- Smith, Adam, on the attractions of an adventurous life, 120
- Somerset, Duke of, his inquiry into the character of seamen, 119; his commission in the navy, 134
- Sound of Islay, 291
- South Australia. *See* Colonies
- Southey's account of Nelson's behaviour on the morning of the battle of Trafalgar, 223
- 'Starling,' stranding of, in the Red Sea, 291
- Steam navigation, shortens periods of absence from home ports, 147
- Steam Reserve, Navy, 31; Captain Willes on stokers, 84
- Steamers, increase of, a bar to recruiting for the reserve, 110; a bad school of seamanship, 110; advantages of service in, 118
- Stirling, Sir John, on number of seamen required in time of war, 33
- Stokers, training of, 319, 326
- Straits of Gibraltar, torpedo boats for, 305
- Suez Canal, its influence on mercantile marine, 63; effect of increased traffic through, in increasing the foreign element in the British mercantile marine, 146; reason for English purchase of shares, 254
- 'Sultan,' speed of, 325
- 'Sunbeam,' 316
- Sweden, system of naval apprenticeship in, 8; course of training for officers, 295
- Sydney, Australia, proposition to establish a dockyard at, 213; two subsidised ships always in the harbour, 273
- Sydney, Gulf of St. Lawrence, volunteers for Naval Reserve at, 220
- TABLE BAY, defences required, 269
- Tarifa, Isthmus of, stranding of an Indian troopship on, 292
- Tarleton, Admiral, and the Royal Naval Artillery Volunteers, 153
- 'Terrible,' protected cruiser, 337
- 'Teutonic,' subsidy from Admiralty and Post Office, 241; speed, 243
- Thames, the, torpedo boats for, 304; estuary of the, as a torpedo-boat cruising ground, 330
- Thames Rowing Club, 173
- Thursday Island, defences required for, 268, 270
- 'Times,' letter to the, of May 23, 1891, on the Royal Naval Artillery Volunteers, quoted, 201 *et seq.*; letter to the, of Dec. 26, 1878, on the future of Cyprus, 246-256
- Tonnage, proportion of men to, 118
- Torpedo boats, 323; comparison between French and English flotillas, 328, 329; necessity for practice, 329; in home waters, 334
- Torpedo flotilla, French, discrepancies in numbers given, 327, 328
- Torpedo gun-vessels, tonnage of, 329
- Torpedo vessels, classes required for navy, 302 *et seq.*
- Torpedoes, use of, 232, 233
- Tory Island, loss of a gunboat on, 291
- Toulon, visit of the Russian fleet to, 331

- 'Touraine,' her speed between Havre and New York, 243
- Towns contributing more than fifty men and boys to naval forces in 1852, 38, 39; large, the growth of, detrimental to maritime interests, 118
- Toynbee, Captain, on the insufficient pay of officers in the mercantile marine, 136
- Trafalgar, battle of, 55; composition of ships' crews at, 202
- Training ships for the navy, cost of, 10; sea-training the best, 11; towns in which boys serving in 1871 were born and entered, 40; countries in which boys were born, 42; previous occupation of boys, 43; cost of, 67; scheme for their extension and support, 67; recommendations of commission of 1859, 68; proposition to train boys for naval and merchant services in same vessel, 68; number of boys annually furnished to the marine, 68; Sir F. Grey's and Mr. Lindsay's plans, 69; Mr. Gray's suggestion, 70; value of, 87; Government, advisability of, 111
- Trincomalee, character of its defences, 265
- Trinity Bay, Newfoundland, training ship for Canadian naval reserve in, 219
- Troados, Cyprus, as a sanatorium, 246
- Tryon, Sir George, on the Royal Naval Artillery Volunteers, 151; his committee on naval volunteers, 202; in naval manœuvres, 315, 316
- Tugs, capability of, to carry guns, 232
- Turkey, limits of maritime resources, 2; unarmoured cruisers, 234; Cyprus under the government of, 253, 259
- Turret-ships, disadvantages of low freeboard in, 309
- Twickenham Rowing Club, 173
- 'UMBRIA,' her run from Queens-town to New York, 243
- Unarmoured cruisers, 233
- United Kingdom, fishing boats and men and boys registered in, in 1869, 44-51
- United States, seafaring population and tonnage of, 3; armed merchant steamers in War of Secession, 3; cruisers and men employed in that war, 4; blockade of Charleston showed that modern ships require fewer men, 4; annual expenditure on navy, 6; strength of fleet, 6; Mr. Robeson's plan (1869) for securing seamen in time of war, 19; officers drawn from merchant service in 1865-66, 20; Admiral Goldsborough's memorandum on vessels for coast defence, 33; Mr. Gideon Wells on moral qualities of seamen of to-day, 34; manning, 52; rank as a maritime power, 54; tonnage in 1871, 54; deficiency in naval reserves, 107; British seamen in, in the early part of the century, 116; steam tonnage, 226; steamers hired by Government during civil war, 228; unarmoured cruisers, 233; Admiral Porter's reports, 233; merchant tonnage, 238; subsidies to steamers, 242; necessity of a powerful mercantile marine, 244; age of entry in navy, 286; subjects of study, 287; inefficiency of engineers in civil war, 287; years spent by young officers at the Naval Academy, 294
- 'United States,' American frigate, capture of the 'Macedonia' by, 116

- University, Naval, for Great Britain, 75, 289
 'Urgent,' recruiting ship at Port Royal, Jamaica, 282
- VALENTINO, M. Charles, on the French torpedo flotilla, 327
 Vancouver, completion of a graving dock at, 271
 Vegetables, value of, for seamen's food, 123
 'Vernon,' training on, 293, 304
 Victoria. *See* Colonies
 'Victoria,' qualities as a cruiser, 321
 Vogel, Sir Julius, favours co-operation of colonies with mother-country for mutual defence, 212
 Volunteer movement, the, value of, 174; carried through its first difficult stages by force of public opinion, 201; 222
 Volunteer Naval Brigade, New South Wales, 214
- WAGES of seamen, 126
 Waldegrave Rowing Club, 173
 Wales, birthplace in, of men and boys serving in the navy in 1852, 37; towns in which boys in training-ships were born and entered, 40, 41
 Warren, Admiral, testimony to value of Naval Reserve, 58
 Warren, Colonel, on the English government of Cyprus, 260
 'Warrior,' speed of, 325
 'Warspite,' training-ship, 67; effects of discipline exhibited on the destruction of, by fire, 131; conduct of in naval manœuvres, 316; improvement in vessels of her type, 317
- Wellington, Duke of, his solicitude for the details of equipment and supplies, 248
 Wells, Gideon (sec. U.S. Navy), on the moral qualities of American seamen of to-day, 34
 West Australia. *See* Colonies
 West Indies, central coaling station, 277; staff of army in, 279; number of troops, 278
 West London Rowing Club, 173
 West, Mr. Sackville, his quotation of a French writer on support of navy by a strong mercantile marine, 32
 Weyl, M., on the private ship-repairing yards at Hong Kong, 272
 Whale Island, drill in batteries at, 204
 White Star line, outwards and homewards run of steamers between England and America, 230, 231; subsidy, steamers, and tonnage, 241
 Willes, Captain, on stokers, 84
 Wilson, Captain, 130, 131, 132, 137
 Wilson, Mr., cited, for the growth of the colonies since 1845, 207
 Wilson, Mr., of Hull, 119
 Wilson Line, steamers and tonnage of, 241
 Wolseley, Sir Garnet, his description of a Russian squadron's imaginary cruise in time of war, 209; his government of Cyprus, 260
 'Worcester,' training of officers on, 72, 113
- YACHT-OWNERS, privileges to, for Reserve crews, 113
 Yachts' crews, 66, 77
 Yarmouth Roads, 294

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